

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,167,731

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent:	7,167,731	:	Attorney Docket No. 072395.0208
		:	
Inventor:	Jonathan O. Nelson	:	
		:	
Filed:	Sep. 12, 2005	:	
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Issued:	Jan. 23, 2007	:	
		:	
Title:	Emoticon Input Method	:	
	and Apparatus	:	

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**PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,167,731**

On behalf of Samsung Electronics Co., Ltd. (“Samsung” or “Petitioner”) and in accordance with 35 U.S.C. § 311 and 37 C.F.R. § 42.100, *inter partes* review is respectfully requested for claims 1-25 of U.S. Patent No. 7,167,731 (“the ‘731 patent”), attached hereto as Exhibit 1001.

The undersigned representative of Petitioner authorizes the Patent Office to charge the \$27,200 Petition Fee, along with an excess claim fee of \$3000 and any additional fees, to Deposit Account 02-4377, ref: 072395.0208 (twenty-five claims are identified for review, and therefore the excess claim fee for the five additional claims over and above the twenty claim limit is \$3000).

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**LIST OF EXHIBITS**

- Exhibit 1001 – U.S. Patent No. 7,167,731
- Exhibit 1002 – File History for U.S. Patent No. 7,167,731
- Exhibit 1003 – File History for U.S. Patent No. 6,987,991
- Exhibit 1004 – Complaint in *Varia Holdings LLC v. Samsung*
- Exhibit 1005 – Complaint in *Varia Holdings LLC v. Research In Motion*
- Exhibit 1006 – Samsung SPH-A5000 User’s Manual (translation, original)
- Exhibit 1007 – Samsung SPH-N1016 User’s Manual (translation, original)
- Exhibit 1008 – Samsung SPH-N1018 User’s Manual (translation, original)
- Exhibit 1009 – Samsung SPH-N2000 User’s Manual (translation, original)
- Exhibit 1010 – Samsung SPH-A5019 User’s Manual (translation, original)
- Exhibit 1011 – U.S. Patent No. 6,975,304
- Exhibit 1012 – Philips Savvy Mobile Phone User’s Guide
- Exhibit 1013 – Journal Du Telephone article
- Exhibit 1014 – Le Monde France article (translation, original, certification)
- Exhibit 1015 – Japanese Pat. Appln. No. 2000-270115 and certified translation
- Exhibit 1016 – U.S. Patent No. 5,953,541
- Exhibit 1017 – WO 00/57617 to Nokia
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- Exhibit 1019 – Declaration of Young-Min Ryu

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Exhibit 1020 – Declaration of Jonghoon Song

Exhibit 1021 – U.S. Patent No. 5,987,482 to Bates

Exhibit 1022 – Wang, Y., “Perception of Meaning and Usage Motivations of Emoticons Among Americans and Chinese Users,” Rochester Institute of Technology Digital Media Library, Sept. 14, 2004

Exhibit 1023 – Perry, T., and Adam, J., “E-mail: Pervasive and Persuasive,” IEEE Spectrum, Vol. 29, Issue 10, p. 23, Oct. 1992

Exhibit 1024 – Katsuno, H., and Yano, C., “Face to Face: On-line Subjectivity in Contemporary Japan,” Asian Studies Review, Vol. 26, Issue 2, 2002, at p. 211-212.

Exhibit 1025 – Selected Articles on Criticism of *Varia v. Samsung* Case

Exhibit 1026 – Bederson Declaration

Exhibit 1027 – R. Zakon, Hobbes’ Internet Timeline, RFC 2235 (1997).

Exhibit 1028 – G. Kessler & S. Shepard, A Primer on Internet and TCP/IP Tools and Utilities, RFC 2151 (1997).

Exhibit 1029 – A. Harmon, “Internet Changes Language for :-) & :-(”, New York Times, (Feb 20, 1999).

Exhibit 1030 – Scott E. Fahlman, “Smiley Lore :-)” web publication

Exhibit 1031 – Scott E. Fahlman, Original Message Post (Sept 19, 1982).

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Exhibit 1032 – S. Hambridge, “Netiquette Guidelines”, Network Working Group  
RFC 1855 (1995)

Exhibit 1033 – D.W. Sanderson, “Smileys”, O'Reilly Press (1994).

Exhibit 1034 – A. Wolf, “Emotional Expression Online: Gender Differences in  
Emoticon Use”, *CyberPsychology & Behavior* (2000).

Exhibit 1035 – J. B. Walther & K. P. D’Addario, “The Impacts of Emoticons on  
Message Interpretation in Computer-Mediated Communication”, *Social  
Science Computer Review* (2001).

Exhibit 1036 – J. Blagdon, “How Emoji Conquered the World”, *The Verge* (March  
4, 2013)

Exhibit 1037 – David Canfield Smith, Charles Irby, Ralph Kimball, and Eric  
Harslem, “The Star User Interface: an Overview”, *AFIPS Press* (1986).

Exhibit 1038 – *Palm Pilot Handbook*, 3Com Corporation (1997).

Exhibit 1039 – *iPaq H3000 Reference Guide*, Compaq Computer Corporation  
(2000).

Exhibit 1040 – D. Goldberg and C. Richardson, “Touch-Typing with a Stylus”, In  
*Proceedings of the INTERACT '93 and CHI '93 Conference on Human  
Factors in Computing Systems*, ACM, New York, NY (1993).

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Exhibit 1041 – K. Perlin, “Quikwriting: Continuous Stylus-based Text Entry”, In

Proceedings of the 11th annual ACM symposium on User interface software  
and technology, ACM, New York, NY (1998).

Exhibit 1042 – NEC Digital Mover N503i User Manual (February, 2001)

Exhibit 1043 – U.S. Patent No. 6,130,628 Schneider-Hufschmidt et al.

Exhibit 1044 – U.S. Patent No. 6,445,934 to Khazaka

Exhibit 1045 – U.S. Patent No. 6,043,760 to Laakkonen

## **I. INTRODUCTION**

The ‘731 Patent is directed to the display of emoticons in text messages on mobile devices. None of this subject matter was new at the time of filing of the application that led to issuance of the ‘731 Patent.

Specifically, the use of emoticons in computer-based text communication traces back to the 1980’s. The first recorded use of emoticons – in this case, the “smiley,” :- ) – was used in a post written on September 19, 1982, by Scott E. Fahlman, then a graduate student at the Computer Science Department of Carnegie Mellon University. *See* Wang, Y., “Perception of Meaning and Usage Motivations of Emoticons Among Americans and Chinese Users,” Rochester Institute of Technology Digital Media Library, Sept. 14, 2004. Exh. 1022.

Widespread use of emoticons in electronic messaging, including on mobile devices such as pagers and cell phones, was acknowledged by the early 1990’s. *See* Perry, T., and Adam, J., “E-mail: Pervasive and Persuasive,” IEEE Spectrum, Vol. 29, Issue 10, p. 23, Oct. 1992; Katsuno, H., and Yano, C., “Face to Face: On-line Subjectivity in Contemporary Japan,” Asian Studies Review, Vol. 26, Issue 2, 2002, at p. 211-212. Exh. 1023. By the year 1999, cell phones with built-in emoticon functionality for text messaging were on the market. Exh. 1014.

In view of this history and the prior art cited in this Petition—which includes printed publication user manuals for mobile phone devices introduced long before

the inventor of the ‘731 Patent filed his original application in August of 2001—the claims of the ‘731 Patent cannot stand.

The ‘731 Patent is now being asserted by patent holding entity Varia Holdings LLC in ongoing patent litigation in multiple federal courts and against multiple parties, including Petitioner.<sup>1</sup> *See Varia Holdings LLC v. Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC*, Civil Action No. 1:12-cv-01899-PGG (S.D.N.Y.); and *Varia Holdings LLC v. Research In Motion Corp. and Research In Motion Ltd.*, Civil Action No. 1:12-cv-00320-SLR-MPT (D. Del). *See* Exhs. 1004-1005. An *inter partes* review before the USPTO would be the most efficient vehicle for resolving this dispute over an invalid patent.

## **II. OVERVIEW OF THE ‘731 PATENT**

The ‘731 Patent, issued to sole named inventor Jonathan O. Nelson is entitled “Emoticon Input Method and Apparatus.” Exh. 1001. It was filed on Sep. 12, 2005, claims priority to parent Application No. 09/932,592 filed on Aug. 17, 2001, and includes twenty-five total claims; claim 1 is the only independent claim.

The Abstract of the ‘731 Patent describes a communication device with logic associated with an input key “to improve the ease-of-use of the apparatus for entering emoticons” into text messages. *See* Exh. 1001, ‘731 Patent, Abstract.

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<sup>1</sup> The ‘731 Patent, and the patent holder’s campaign to enforce it, have been the subject of widespread criticism. *See, e.g.*, Exh. 1025, selected reports.

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The Background portion of the ‘731 Patent sets a baseline for what the applicant describes was known to one of ordinary skill at the time of the invention. Specifically, the Applicant conceded “[i]t is known that for many users, their email and instant messaging communications (also referred to as textual or non-verbal communications) often involve the use of emoticons, such as the ‘smiling face’ or the ‘sad face’.” ‘731 Patent, col. 1, lns. 30-33. Applicant further conceded that “[s]ome instant messaging applications offer the minimal assistance of converting or replacing a handful of widely used emoticon forming sequences of characters to corresponding graphical symbols. For example, when the characters ‘:’ (colon), ‘=’ (equal sign) and ‘)’ (right parenthesis) are successfully entered, some instant messaging applications automatically replace the entered characters with the graphical symbol ‘☺’.” *Id.*, col. 1, lns. 39-43; *see also* Exh. 1003, 6/29/07 Request for Cert. of Correction filed in parent Application No. 09/932,592, issued as U.S. Pat. No. 6,987,991 (which sought to include the ‘☺’ symbol mistakenly omitted).

The ‘731 Patent thereafter describes the supposed limitations of the prior art as of the filing date and the problems that the inventor sought to address:

[F]ew email or instant messaging applications offer any assistance to a user to enter and use emoticons in their communications...

Further, regardless of whether the character sequence is conventional or unconventional, **a user typically has to enter the emoticon**

**forming characters one at a time. This disadvantage is amplified in situations where the user is conducting the textual or non-verbal communication using a communication device having limited input facilities, such as wireless mobile phones.**

Accordingly, facilities that are more user friendly in assisting a user to employ emoticons in their communications, especially on communication devices with limited input facilities, such as wireless mobile phones, are desired.

‘731 Patent, col. 1, lns. 33-60 (emphasis supplied).

But the ‘731 Patent does not reflect, and the examiner during original prosecution was never informed, that all of these identified problems had already been addressed in the prior art, and the supposed improvements were already the subject of widespread adoption in mobile phones and in associated publications.

Ultimately, the ‘731 Patent claims the use of an input key that can be pressed to display emoticons that can be inserted into text messages on a mobile device. But as described in more detail below, this simple functionality was both anticipated by certain prior art references and obvious in view of the knowledge of one of ordinary skill in the art well before the ‘731 Patent’s priority date.

### **III. OVERVIEW OF THE PROSECUTION HISTORY**

The ‘731 Patent is a continuation of Application Ser. No. 09/932,592, filed Aug. 17, 2001, and issued as U.S. Patent No. 6,987,991 (“the ‘991 Patent”).

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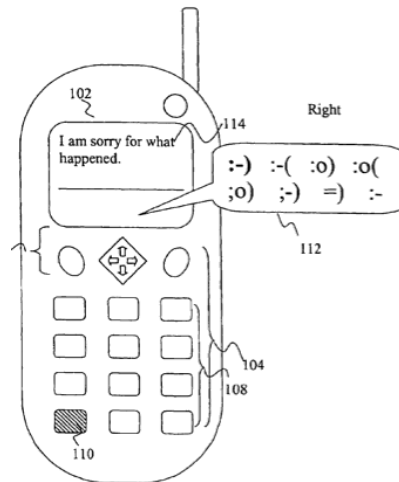
During prosecution of the '991 Patent, the examiner rejected the claims in an office action under § 103(a) as unpatentable over U.S. Patent No. 6,539,240 ("Watanabe") in view of U.S. Patent Publication No. 2002/0156866 ("Schneider"). *See* Exh. 1003, '991 Patent File History, 6/23/04 Office Action. After Applicant's response, the examiner rejected the claims in a final office action again under §103(a) as unpatentable over those same references. *See id.*, 2/9/05 Final Office Action. The claims of the '991 Patent issued only after the Applicant incorporated a narrowing limitation into all claims, directed to the embodiment described in the Abstract, in which "current focus is place[d] on one of the displayed emoticons, and the emoticon with the current focus is automatically selected upon elapse of a predetermined amount of time after the current focus was placed." *See id.*, 4/11/05 Amendment; '731 Patent, Abstract. The amended claims issued as the '991 Patent. 5/9/05 Notice of Allowance.

Applicant thereafter re-filed the broader, original claims in a continuation application (which matured into the '731 Patent at issue here). The examiner again rejected the claims, under U.S.C. 103(a) as unpatentable over Watanabe in view of Schneider, the same references cited in the prosecution of the parent. *See* Exh. 1002, '731 File History, 2/24/06 Office Action.

Applicant amended the claims, but not to include the narrowing limitation directed to the "timeout" feature of the '991 Patent. Instead, Applicant amended

the claims to require a “list” of emoticons and a “mobile communication” device, and distinguished Watanabe on the basis that it allowed the selection of “an image” but not a “list” of images. *See id.*, 6/26/06 Amendment at 7 (emphasis in original).

Fig. 2 of the ‘731 Patent describes the identified “list of emoticons 112”:



None of the prior art references identified in this Petition were cited during the prosecution of the ‘731 Patent. As set forth in detail below, these references and others disclosed the features of (1) displaying a list of emoticons (2) on a mobile device—the sole features that were added to overcome the prior art rejections during prosecution and which ultimately resulted in issuance of the ‘731 Patent.

#### **IV. OVERVIEW OF CHALLENGE AND RELIEF REQUESTED**

Pursuant to 37 C.F.R. §§ 42.22(a)(1) and 42.104 (b)(1)-(2), Petitioner challenges claims 1-25 of the ‘731 Patent.

**A. Prior Art Patents and Printed Publications**

Petitioner relies on the following patents and printed publications, none of which were considered during the original prosecution of the ‘731 Patent:

- Exhibit 1006 – Samsung SPH-A5000 Mobile Phone User’s Manual (“SPH-A5000”), which was published in March 2001, is prior art against the ‘731 Patent under 35 U.S.C. § 102(a). (*See* Exhs. 1019 and 1020).
- Exhibit 1011 – U.S. Patent No. 6,975,304 to Hawkins et al. (“Hawkins”), which issued on Dec. 13, 2005 and claims priority to U.S. Provisional Application No. 60/297,817 filed on June 11, 2001, and therefore is prior art against the ‘731 Patent under 35 U.S.C. § 102(e).
- Exhibit 1012 – Philips Savvy Phone User’s Guide (“Philips”), published in 1999, is prior art against the ‘731 Patent under 35 U.S.C. § 102(b).<sup>2</sup>
- Exhibit 1015 – Japanese Patent Application No. 2000-270115 to Kenwood (“Kenwood”) which published on September 29, 2000, is prior art against the ‘731 Patent under 35 U.S.C. § 102(a).
- Exhibit 1016 - U.S. Patent No. 5,953,541 to King et al. (“King”), issued Sept. 14, 1999, is prior art against the ‘731 Patent under 35 U.S.C. § 102(b).

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<sup>2</sup> Philips was published in 1999. The Philips Savvy Mobile Phone was introduced in 1999 as described in WO 00/57617 (Exh. 1017, col. 1, lns. 16-23), and press at the time confirm the sale of the phone in 1999. *See* Exhs. 1013-1014.

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- Exhibit 1017 – WO 00/57617 to Nokia (“Nokia”), published on Sep. 28, 2000 is prior art against the ‘731 Patent under 35 U.S.C. § 102(a).
- Exhibit 1018 – EP 1 018 679 A2 to Nokia (“Nokia II”), published July 12, 2000 and is prior art against the ‘731 Patent under 35 U.S.C. § 102(b).
- Exhibit 1021 – U.S. Patent No. 5,987,482 to Bates, assigned to IBM (“IBM”), was issued on November 16, 1999, and therefore is prior art against the ‘731 Patent under 35 U.S.C. § 102(b).

**B. Grounds for Challenge**

Petitioner requests cancellation of the challenged claims on the following statutory grounds:

**I. SPH-A5000 as Base Reference**

- **GROUND 1.** Claims 1, 9-13, 15, 17-19, 21, and 23-24 are Unpatentable Under 35 U.S.C. § 102(a) as Anticipated by SPH-A5000
- **GROUND 2.** Claims 2-8, 14, 16, 20, 22 and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of the Knowledge of One of Ordinary Skill in the Art
- **GROUND 3.** Claims 2-8 and 14 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view Nokia II
- **GROUND 4.** Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of King

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- **GROUND 5.** Claim 20 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of IBM
- **GROUND 6.** Claim 22 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of Philips or Nokia
- **GROUND 7.** Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of Kenwood or Nokia

II. Philips as Base Reference

- **GROUND 8.** Claims 1, 9-15, 17-18 and 21-24 are Unpatentable Under 35 U.S.C. § 102(b) as Anticipated by Philips
- **GROUND 9.** Claims 2-6, 7-13, 19-20, and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of the Knowledge of One of Ordinary Skill in the Art
- **GROUND 10.** Claims 2-8 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of Nokia II
- **GROUND 11.** Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of King
- **GROUND 12.** Claims 19-20 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of IBM
- **GROUND 13.** Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of Kenwood or Nokia

III. Hawkins as Base Reference

- **GROUND 14.** Claims 1, 4, 10-13, 15, 17-19, 21 and 23-24 are Unpatentable Under 35 U.S.C. § 102(e) as Anticipated by Hawkins
- **GROUND 15.** Claims 2-10, 14, 20, 22 and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of the Knowledge of One of Ordinary Skill in the Art
- **GROUND 16.** Claims 2-9 and 14 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Nokia II
- **GROUND 17.** Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of King
- **GROUND 18.** Claim 20 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of IBM
- **GROUND 19.** Claim 22 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Philips or Nokia
- **GROUND 20.** Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Kenwood or Nokia

IV. Kenwood as Base Reference

- **GROUND 21.** Claims 1, 14-15, 17-18, 21 and 23-25 are Unpatentable Under 35 U.S.C. § 102(a) as Anticipated by Kenwood

- **GROUND 22.** Claims 11-13 are Unpatentable Under § 103(a) as Obvious over Kenwood in view of the Knowledge of One of Ordinary Skill in the Art 57
- **GROUND 23.** Claims 19-20 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Kenwood in view of IBM

As demonstrated below, for each of the statutory grounds, there is a reasonable likelihood that Petitioner will prevail with respect to at least one of the challenged claims. *See* 35 U.S.C. § 314(a)

## V. CLAIM CONSTRUCTION

Pursuant to 37 C.F.R. § 42.100(b), and solely for purposes of this review, Petitioner construes the claim language such that the claims are given their broadest reasonable interpretation in light of the specification of the ‘731 Patent. Because the standard for claim construction at the Patent Office is different than that used in a U.S. district court litigation, *see In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364, 1369 (Fed. Cir. 2004) and MPEP § 2111, Petitioner expressly reserves the right to argue a different claim construction in the district court proceeding for any term of the ‘731 Patent, as appropriate.<sup>3</sup> The following example terms are construed as follows:

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<sup>3</sup> Accordingly, any interpretation or construction of the challenged claims in this Petition, either implicitly or explicitly, should not be viewed as constituting, in whole or in part, Petitioner’s own interpretation or construction as should be applied in the copending district court action.

“Emoticon.” For purposes of this *inter partes* review, the limitation “emoticon” may be construed, consistent with its plain and ordinary meaning and the patent owner’s position expressed in the pending district court litigations, to mean “pictorial representations of an expression or a person’s mood.” (See Exh. 1004, Varia Complaint, at ¶ 11; *see also* Exh. 1026, Declaration of Dr. Benjamin Bederson, at ¶ 43) (hereinafter “Bederson Dec.”)).

“Responsive to a selection of said first input key.” For purposes of this *inter partes* review, the limitation of claim 1 of “responsive to a selection of said first input key” may be construed in accordance with its plain meaning. Inherent in the broadest reasonable interpretation of the plain meaning is that the input key is simply a key that, when pressed, displays a list of emoticons that may be selected. According to this broadest reasonable interpretation, the claim does not include any limitation requiring that the key be dedicated *solely* to the displaying of emoticons. Rather, the key may be a multifunction key, which may have other uses and/or such that multiple interactions may be necessary to access an emoticon list.

This interpretation is supported by the patent specification as well, which contemplates that in some embodiments, the claimed “first input key” functionality may be accessed using one of the standard keys on the phone keypad, such as the \*, #, or any of the number keys (which can serve differing purposes depending on a

current mode of the device). *See* ‘731 Patent, col. 6, lns. 39-59. (*See* Bederson Dec., at ¶ 44-45).

This interpretation is also consistent with the patent holder’s apparent interpretation in the pending district court action. In its complaint against Petitioner, the patent holder has alleged infringement by a Galaxy S device which requires multiple menu interactions, including the pressing of a generic menu key to access an “insert smiley” option and then further pressing the “insert smiley” option to display a list of emoticons. *See* Exh. 1004, Samsung Complaint, at ¶16. Specifically, the patent holder there alleges “with reference to the Samsung Galaxy S, when the user presses the ‘Insert smiley’ key while in text mode, a list of emoticons for selection by the user is displayed on the screen... .” *Id.* To access the identified screen, the user must take multiple actions: select the text field → press the “Option key” → select “Insert smiley.” Only then is a list of emoticons displayed. *See* Galaxy Manual at 59.<sup>4</sup> (*See* Bederson Dec., at ¶ 44-45).

“Text mode.” For purposes of this *inter partes* review, the limitation of claim 1 of “text mode” may be construed in accordance with its plain meaning, which may generally mean “a mode in which a textual message is being composed.” This construction is supported by the patent specification, which

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<sup>4</sup> Accessed on the Samsung website at <http://www.samsung.com/us/support/owners/product/SGH-T959HABTMB>; *see also* <http://www.youtube.com/watch?v=ZursYvJeb6g>; starting at 0:25.

indicates “while phone 100 is operating in the text mode, e.g. when a textual message is being composed.” ‘731 Patent, col. 4, lns. 3-4. The patent specification further distinguishes between a “text or non-verbal mode” and a “voice or verbal mode.” ‘731 Patent, col. 3, lns. 18-21 (“Wireless mobile phone 100 operates in at least two modes, a voice or verbal mode, and a text or non-verbal mode.”). (See Bederson Dec., at ¶ 47).

“Display a list of emoticons for selection.” For purposes of this *inter partes* review, the limitation “display a list of emoticons for selection” may be construed in accordance with its plain and ordinary meaning. (See Bederson Dec., at ¶ 46). This is consistent with the embodiments described – some of which, as in the “list of emoticons 112” of Fig. 2, allow for the display of multiple list members on screen at once; in other instances, the specification describes separately displaying the list members on screen one at a time and allowing the user to navigate through the list members. See col. 7, lns. 53-60.

## **VI. LEVEL OF ORDINARY SKILL IN THE ART**

The level of ordinary skill in the art is evidenced by the references. See *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (determining that the Board did not err in adopting the approach that the level of skill in the art was best determined by the references of record). More specifically the level of ordinary skill in the art of the ‘731 Patent is a person having a master’s degree in computer

science or computer engineering, with at least three years of experience in software and user interface design. (*See* Bederson Dec., at ¶ 40).

**VII. THERE IS A REASONABLE LIKELIHOOD THAT THE CHALLENGED CLAIMS ARE UNPATENTABLE**

Pursuant to 37 C.F.R. § 42.104(b)(4)-(5), all of the challenged claims are unpatentable for the reasons set forth in detail below.

**GROUND 1. Claims 1, 9-13, 15, 17-19, 21, and 23-24 are Unpatentable Under 35 U.S.C. § 102(a) as Anticipated by SPH-A5000**

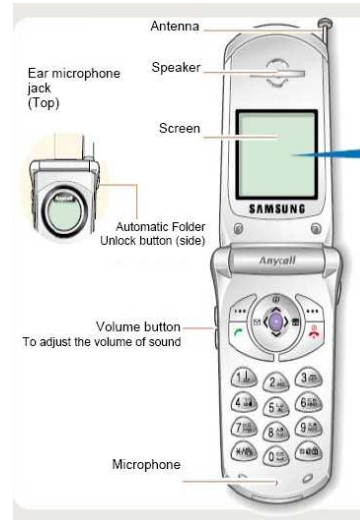
Claims 1, 9-13, 15, 17-19, 21, and 23-24 are invalid as anticipated by SPH-A5000, as shown in the claim chart below. A certified translation of SPH-A5000 is attached as part of Exhibit 1006, and is referenced in the claim charts below.<sup>5</sup>

<b>‘731 Claims vs. Samsung SPH-A5000 User Manual</b>	
1. A mobile communication apparatus comprising:	
SPH-A5000 discloses “the <b>phone</b> 1 according to the preferred embodiment is adapted for communication via a cellular network”. (SPH-A5000: 1; <i>see also</i> Bederson Dec., at ¶52)	
a display;	

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<sup>5</sup> Nearly identical disclosures to that of the SPH-A5000 User Manual are also provided in the Samsung SPH-N1016 User Manual, the Samsung SPH-N1018 User Manual, the Samsung SPH-N2000 User Manual, and the Samsung SPH-A5019 User Manual (collectively, the “Samsung Manuals”). *See* Exhs. 1007 to 1010. The Samsung Manuals were published beginning in February 2001. *See* Exhs. 1019 and 1020. The Samsung Manuals are prior art under 35 U.S.C. § 102(a), and each render the challenged claims invalid for the same reasons as SPH-A5000. Translations of relevant pages of the Samsung Manuals are also attached; however, only the SPH-A5000 is relied on in this Petition for the cited disclosures.

SPH-A5000 discloses a display embodied in the **screen** . (SPH-A5000: 1; *see also* Bederson Dec., at ¶52)



a first input key; and

SPH-A5000 discloses a **“Select” key** for “selecting a function.” (SPH-A5000: 1; *see also* Bederson Dec., at ¶52)

operating logic associated with the first input key to display on said display a list of emoticons for selection by a user, responsive to a selection of said first input key,



SPH-A5000 discloses that the “Select” key can be used to display a **list of emoticons** for selection by the user. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52) For example, the instructions below demonstrate the procedures to display a list of emoticons and select the “( @. @ )” emoticon. (SPH-A5000: 37)



The user can then press the “Select” key to display a list of emoticons.

Thereafter the user can navigate to the desired emoticon using the arrow keys:



It would be inherent to one of ordinary skill in the art that the functionality described in the SPH-A5000 disclosure would necessarily be implemented with some form of **operating logic**, comprising at least hardware (a processor and memory) and software. (*See* Bederson Dec., at ¶53).

when the apparatus is operating in a text mode.

SPH-A5000 discloses a list of emoticons that can be displayed when the user is entering text in an SMS message, which constitutes a text mode. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52)

9. The apparatus of claim 1, wherein in addition to said first input key, said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data.

SPH-A5000 discloses a 12-key input pad for entering at least numerical data, in addition to the “Select” key. (SPH-A5000: 1; *see also* Bederson Dec., at ¶52) SPH-A5000 also discloses a “Select” key for “selecting a function,” which constitutes the claimed first input key. (SPH-A5000: 1; *see also* Bederson Dec., at ¶52)

10. The apparatus of claim 1, wherein said operating logic is designed to display said emoticons for selection in a selected one of a first left-to-right then top-to-bottom display arrangement, a second right-to-left then top-to-bottom display

arrangement, a third top-to-bottom then left-to-right display arrangement, and a fourth top-to-bottom then right-to-left display arrangement.

SPH-A5000 discloses a list of emoticons that is displayed in an ordering that is first left-to-right then top-to-bottom display. One of ordinary skill in the art reviewing the SPH-A5000 would read the reference as disclosing one of these claimed display orderings. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52).

11. The apparatus of claim 1, wherein said operating logic is designed to place a current focus on one of the one or more emoticons displayed for selection.

SPH-A5000 discloses that a list of emotions is displayed with a current focus on one emoticon. Specifically, the focus is shown in reverse-video, as indicated in the figure shown. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52).



12. The apparatus of claim 11, wherein said operating logic is further designed to change said placement of current focus to another one of said one or more emoticons displayed for selection responsive to a user input.

SPH-A5000 discloses that the user can use the direction/arrow buttons to change the placement of the current focus of the selected emoticon – responsive to that user input, the placement of the current focus can be changed from one emoticon to another. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52).

13. The apparatus of claim 12, wherein said operating logic is designed to perform said changes in accordance with the order the one or more emoticons are displayed for selection.

SPH-A5000 discloses the user can use the direction buttons to select an emoticon to include in the message, allowing the user to change the placement of the current focus of the selected emoticon in any order, including in the order in which the emoticons are displayed. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52)

15. The apparatus of claim 12, wherein said apparatus further comprises at least one other input key, and said at least one other input key is employed to provide said user input.

SPH-A5000 discloses the user can use the “Select” key to display a list of emoticons, and the separate direction buttons to change the focus of the displayed emoticons. (SPH-A5000: 37; *see also* Bederson Dec., at ¶52)

17. The apparatus of claim 11, wherein said operating logic is further designed to select the emoticon with the current focus, responsive to a user input.

SPH-A5000 discloses a list of emoticons can be displayed with current focus on one emotion, and allowing the user to select the emoticon having current focus by pressing the “Select” key. (SPH-A5000: 37; *see* Bederson Dec., at ¶52)

18. The apparatus of claim 1, wherein each of said one or more emoticons comprises a plurality of characters.

SPH-A5000 discloses emoticons that each comprise a plurality of characters, such as “(@.@).” (SPH-A5000: 37; *see also* Bederson Dec., at ¶52)

19. The apparatus of claim 18, wherein said placement of a current focus on a first of displayed emoticons comprises highlighting all characters of the first emoticon.

SPH-A5000 discloses a list of emoticons is displayed with a current focus on one emoticon, in which all of the characters of the selected emoticon are highlighted (reverse video). (SPH-A5000: 37; *see also* Bederson Dec., at ¶52)

21. The apparatus of claim 18, wherein said selecting of the emoticon with the current focus comprises selecting all characters of the emoticon with the current focus.

SPH-A5000 discloses a list of emoticons is displayed with a current focus on one emoticon, allowing the user to select the emoticon to insert in the text, including all of the characters of the emoticon being shown with the current focus (in reverse video). (SPH-A5000: 37; *see also* Bederson Dec., at ¶52).

23. The apparatus of claim 1, wherein said apparatus further comprises: storage medium having stored therein a plurality of programming instructions designed to implement said operating logic; and a processor coupled to the storage medium to execute the programming instruction.

It would be inherent in the reference to one of ordinary skill in the art that the functionality described SPH-A5000 would necessarily require a storage medium, such as a memory, with instructions that implement the operating logic, and a processor for executing the instructions. (*See* Bederson Dec., at ¶86)

24. The apparatus of claim 1, wherein said mobile communication device is a wireless mobile phone.

SPH-A5000 discloses a wireless mobile phone. (SPH-A5000).

**GROUND 2. Claims 2-8, 14, 16, 20, 22 and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of the Knowledge of One of Ordinary Skill in the Art**

Claims 2-8, 14, 16, 20, 22 and 25 are invalid as obvious over SPH-A5000 in view of the knowledge of one of ordinary skill in the art.

Each of these dependent claims relates to simple design choices in implementing what the Applicant alleged to be the inventive aspect of his invention – the use of an input key that can be pressed to display a list of emoticons that can be inserted into text messages on a mobile device – that were well within the knowledge of those of ordinary skill. Claims 2-8 and 14 merely identify which key on a standard keypad is the input key, while claims 16, 20, 22 and 25 identify well-known graphical user interface techniques. These claims are therefore invalid as obvious over SPH-A5000, as shown in detail in the claim chart below. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 402-03 (2007) (“When there is a design need . . . to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”); *see also id.* at 401 (“[I]f a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it

would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person's skill.”).

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses an asterisk key which can be used for entering “\*” when the apparatus is operating in voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode. (SPH-A5000: 1). It would have been obvious to one of ordinary skill in the art to use keys on a standard 4x3 keypad on a mobile phone for the entry of text and special symbols while in a non-voice mode, and any of such keys, including the “\*” key, could have been utilized as the first input key as a mere design choice. (*See* Bederson Dec., at ¶54-55). *See* Examiner's remarks during prosecution, February 24, 2006 Office Action, 4 (finding this claim obvious).

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the “#” key.

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the digit keys.

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input key being one of said 12 input keys.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses a 12-key input keypad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. (SPH-A5000: 1; *see also* Bederson Dec., at ¶65) It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (SPH-A5000: 1; *see also* Bederson Dec., at ¶65).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

SPH-A5000 discloses a 12-key input keypad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. It would

have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (SPH-A5000: 1; *see also* Bederson Dec., at ¶65)

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

SPH-A5000 discloses a 4×3 array input pad configured in a left-to-right manner (as numbered sequentially). (SPH-A5000: 1; *see also* Bederson Dec., at ¶65)

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

SPH-A5000 discloses a 4×3 array input pad in a top-to-bottom manner (as numbered sequentially). (SPH-A5000: 1; *see also* Bederson Dec., at ¶65)

14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.

*See* Ground 1 Claim 12 chart. SPH-A5000 discloses using the “Select” key to display a list of emoticons, and the direction buttons to change the focus of the emoticons in the list. (SPH-A5000: 37). It would have been obvious to one of ordinary skill in the art to employ the input key with an alternate function, for the reasons set forth above in claim 2, to provide other user input including to change placement of the current focus. (*See* Bederson Dec., at ¶67).

16. The apparatus of claim 11, wherein said operating logic is further designed to automatically select the emoticon with the current focus upon occurrence of a selected one of elapse of a predetermined amount of time after the first input key was last selected, and selection another input key.

*See* Ground 1 Claim 11 chart. SPH-A5000 discloses the user can use the direction buttons and the “Select” key to select an emoticon to include in the message, therefore satisfying the claim limitation. (SPH-A5000: 37). It would have been obvious to one of ordinary skill in the art to employ another input key to allow the user to select an emoticon having the current focus, for reasons set forth above in connection with claim 2. (*See* Bederson Dec., at ¶54-55).

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

*See* Ground 1 Claim 19 chart. SPH-A5000 discloses a list of emoticons is displayed with a current focus on one, in which all of the characters are highlighted. (SPH-A5000: 37). One of ordinary skill would understand that highlighting could also be accomplished by underlining, italicizing, employing

bold face, or otherwise modifying the appearance of a currently-selected list option to visually distinguish it from others, and that selection is a simple design choice. (*See* Bederson Dec., at ¶73).

22. The apparatus of claim 1, wherein each of said one or more emoticons comprises a pixel map based single graphical symbol.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses emoticons that comprise a plurality of characters. (SPH-A5000: 37) It would have been obvious to one of ordinary skill in the art to also enable emoticons as pixel maps. (*See* Bederson Dec., at ¶77). This claim was well known, and is admitted to be prior art in the Background of the ‘731 Patent: “For example, when the characters ‘:’ (colon), ‘=’ (equal sign) and ‘)’ (right parenthesis) are successfully entered, some instant messaging applications automatically replace the entered characters with the graphical symbol ‘☺’.” ‘731 Patent, col. 1: 36-43; *see also* ‘731 Patent Certificate of Correction. One would implement this well known feature in SPH-A5000 to offer graphics and more options in messaging functions.

25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

*See* Ground 1 Claim 1 chart. One of ordinary skill in the art would understand that adding items to or deleting items from a list would have been obvious and well-known at the time. (*See* Bederson Dec., at ¶87). During the examination of the parent ‘991 Patent, the Examiner took official notice that “the art of add[ing] or delet[ing] an object in a display of a portable device is conventionally well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add or delete emoticon[s] in the apparatus of [the primary reference] so that the user can have his desire[d] emoticons.” ‘991 Patent Prosecution history, 6/23/04 Office Action at 7.

**GROUND 3. Claims 2-8 and 14 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view Nokia II**

Claims 2-8 and 14 are invalid as obvious over SPH-A5000 in view of Nokia II, as shown in the claim chart below. For the reasons noted in Ground 2, Petitioner does not believe a secondary reference is required for a finding of obviousness, but such references are readily available, as shown in the claim chart below, and in Grounds 4-7.

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses an asterisk key which can be used for entering “\*” when the apparatus is operating in voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode. (SPH-A5000: 1; *see also* Bederson Dec., at ¶56-59).

Nokia II discloses: “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #. For writing of SMS-messages, most of the number keys (2-9, 0, and #) in Nokia 2110 mobile phones can be used to produce letters and other symbols. In this case, a part of the producible symbols reside ‘under’ each key, e.g., in order first three letters, then the number of the numeric keyboard and after these two or three special symbols. [and thereafter describing various means for accessing these symbols]” Nokia II, ¶0002.

One of ordinary skill in the art would be motivated to combine SPH-A5000 with Nokia II to designate one of the 12 standard keys, e.g., the “\*” key, as the input key because they are both related to efficient keyboard input on mobile devices, and the use of special characters. Furthermore, one of ordinary skill in the art would have been motivated to modify the system disclosed in SPH-A5000 to include the features disclosed in Nokia II in order to increase efficiency of keyboard input, in particular in instances in which the user can be presented with more options than there are keys. The use of other keys as the input key in SPH-A5000 would be a mere design choice. (*See* Bederson Dec., at ¶56-59).

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

*See* Ground 2 Claim 1 chart. SPH-A5000 discloses a pound key which can be used for entering “#” when the apparatus is operating in voice mode – in other words, that the “#” key has its standard phone functionality when in voice/phone mode. (SPH-A5000: 1). This claim would have been obvious for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶62).

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses numerical keys which can be used to enter digits when the apparatus is operating in voice mode – in other words, that the number keys have standard phone functionality when in

voice/phone mode. (SPH-A5000: 1). This claim would have been obvious for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶64).

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input key being one of said 12 input keys.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses a 12-key input keypad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. (SPH-A5000: 1). It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶66).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

*See* Ground 1 Claim 5 chart. SPH-A5000 discloses a 12-key input pad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. (SPH-A5000: 1). It would have been obvious to one of ordinary skill to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶66).

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

SPH-A5000 discloses a 4×3 array input pad configured in a left-to-right manner (as numbered sequentially). (SPH-A5000: 1; *see also* Bederson Dec., at ¶66)

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

SPH-A5000 discloses a 4×3 array input pad in a top-to-bottom manner (as numbered sequentially). (SPH-A5000: 1; *see also* Bederson Dec., at ¶66)

14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.

*See* Ground 1 Claim 12 chart. SPH-A5000 discloses the user can use the “Select” key to display a list of emoticons, and the direction buttons to change the focus of the emoticons in the displayed list. (SPH-A5000: 37). It would

have been obvious to one of ordinary skill in the art to employ the input key with an alternate function, including as disclosed in Nokia II and for the reasons set forth above in claim 2, to provide other user input including to change placement of the current focus. (*See* Bederson Dec., at ¶68).

**GROUND 4. Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of King**

Claim 16 is obvious over SPH-A5000 in view of King, as shown below.

16. The apparatus of claim 11, wherein said operating logic is further designed to automatically select the emoticon with the current focus upon occurrence of a selected one of elapse of a predetermined amount of time after the first input key was last selected, and selection another input key.

*See* Ground 1 Claim 11 chart. SPH-A5000 discloses the user can use the direction buttons and the “Select” key to select an emoticon to include in the message, therefore satisfying the claim limitation. (SPH-A5000: 37). It would have been obvious to one of ordinary skill in the art to employ another input key to allow the user to select an emoticon having the current focus. (*See* Bederson Dec., at ¶69-72; *see also* King at 21:33-38).

Additionally, it would have been obvious to one of ordinary skill in the art to enable the selection of an emoticon after a predetermined amount of time has elapsed. The use of a time-out, to automatically select a symbol having the current focus, was well known in the art. (*See* Bederson Dec., at ¶69-72). For example, as disclosed in King, “[a]fter the expiration of the minimum time-out delay period ... the currently indicated symbol is accepted as the next symbol of the multiple-stroke interpretation of the current keystroke sequence, and the visual indication of the symbol is removed from the key.” King, col. 21:33-38. One of ordinary skill would be motivated to combine the references because they are both related to efficient keyboard input on mobile devices, including special characters. Furthermore, one of ordinary skill in the art would have been motivated to modify SPH-A5000 to include features of King in order to increase efficiency of keyboard input, in particular in instances in which the user can be presented with more options than there are keys. (*See* Bederson Dec., at ¶69-72).

**GROUND 5. Claim 20 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of IBM**

Claim 20 is obvious over SPH-A5000 in view of IBM, as shown below.

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

*See* Ground 1 Claim 19 chart. SPH-A5000 discloses a list of emoticons is displayed with a current focus on one emoticon, in which all of the characters of the selected emoticon are highlighted. (SPH-A5000: 37). One of ordinary skill in the art would understand that highlighting could also be accomplished by underlining, italicizing, employing bold face, or otherwise modifying the appearance of a currently-selected list option. For instance, U.S. Patent No. 5,987,482 to Bates et al., assigned to IBM (“IBM”; Exh. 1021 hereto) addresses the issue of distinguishing certain on-screen elements in the context of computing, in this instance in connection with HTML. IBM discusses that numerous different techniques could be employed to distinguish on-screen elements from others, including underlining, colors, fonts, sizes, italics, and other characteristics. *See* IBM, col. 9, lns. 5-18. (“Other formatting or display characteristics may also be used to distinguish internal and external hypertext link definitions. For example, different colors, font faces/sizes, styles (e.g., underline, italics, bold, etc.), and/or other display characteristics may be used.”). One of ordinary skill would have been motivated to apply the known techniques for distinguishing on-screen elements to assist in providing better focus/guidance for a user of a mobile phone or other mobile computing device. (*See* Bederson Dec., at ¶¶74-76).

**GROUND 6. Claim 22 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of Philips or Nokia**

Claim 22 is invalid as obvious over SPH-A5000 in view of Nokia or Philips, as shown in the claim chart below.

22. The apparatus of claim 1, wherein each of said one or more emoticons comprises a pixel map based single graphical symbol.

*See* Ground 1 Claim 1 chart. SPH-A5000 discloses emoticons that comprise a plurality of characters. (SPH-A5000: 37). It would have been obvious to one of ordinary skill in the art to also enable emoticons as pixel maps. This feature was well known, and is admitted prior art in the Background of the ‘731 Patent: “For example, when the characters ‘:’ (colon), ‘=’ (equal sign) and ‘)’ (right parenthesis) are successfully entered, some instant messaging applications automatically replace the entered characters with the graphical symbol ‘☺’.” ‘731 Patent, col. 1: 36-43. The use of pixel map-based graphics on cell phones was widely known, e.g., as described in Philips at 17-18 (see claim chart herein

and Figure depicting “Emotion Icons”); and as described in Nokia in Fig. 5 below. (Nokia: col. 7, line 14; Figure 5) (*See* Bederson Dec., at ¶78-81). One of ordinary skill in the art would be motivated to combine SPH-A5000 with Nokia or Philips because they are all related to keyboard entry of special characters such as emoticons on mobile devices. One of ordinary skill in the art would have been motivated to modify the system disclosed in SPH-A5000 to include the features disclosed in Nokia or Philips in order to increase the number of characters available to users. (*See* Bederson Dec., at ¶82-85).

**GROUND 7. Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over SPH-A5000 in view of Kenwood or Nokia**

Claim 25 is invalid as obvious over SPH-A5000 in view of Kenwood or Nokia, as shown in the claim chart below.

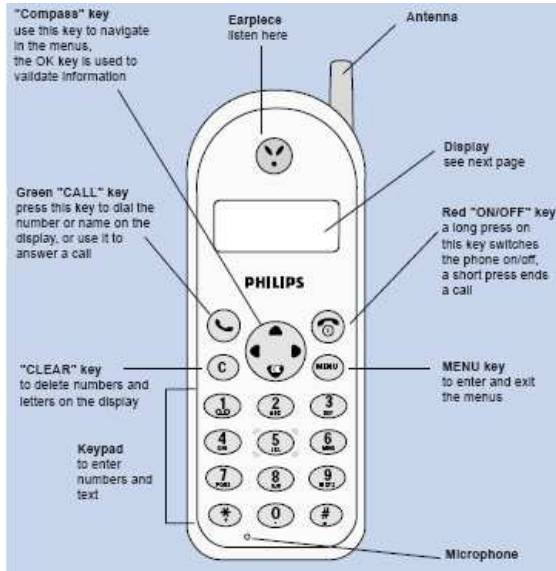
25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

*See* Ground 1 Claim 1 chart. One of ordinary skill in the art would understand that adding items to or deleting items from a list would have been obvious and well-known at the time. (*See* Bederson Dec., at ¶87). For example, Kenwood discloses that “[a]s in the case of a fixed-form sentence, this emoticon can be pre-registered in the terminal as an initial value, and can be inputted by writing it oneself,” and therefore described the adding of emoticons by the user. (Kenwood: Col. 4, lns. 43-45; Col. 3, lns. 22-35.). Nokia describes “[the user] can enter the desired pattern by means of a graphical editor 35 (display is shown in fig. 7) and store the manually entered graphic in a ‘User graphic’ memory 32 and use the graphic in the GMS editor.” (Nokia at p. 11, lns. 24-29)

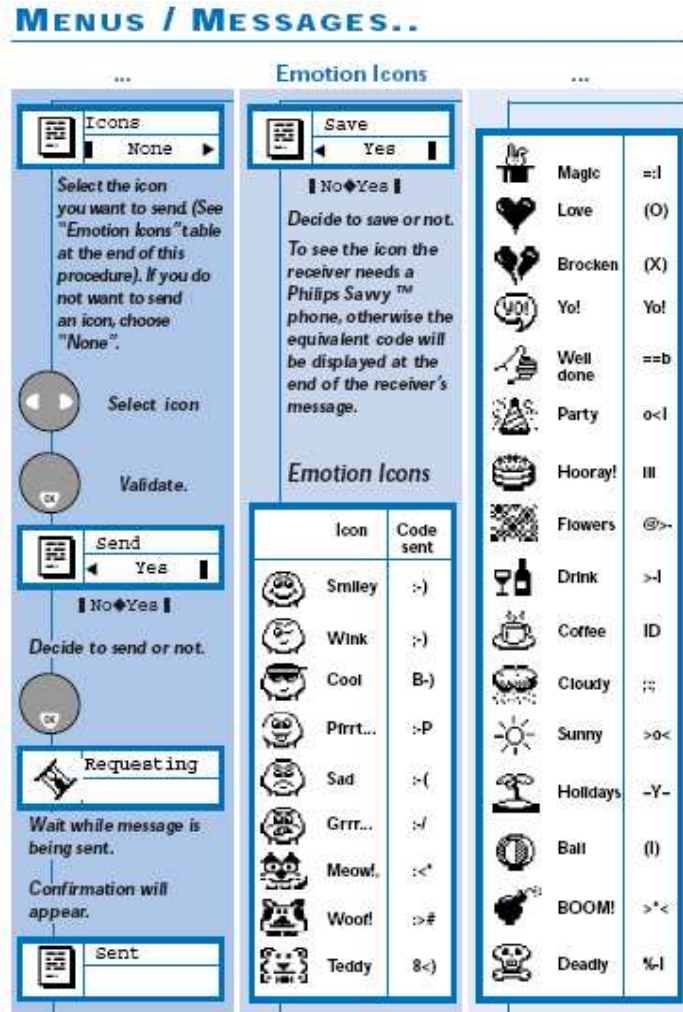
One of ordinary skill in the art would be motivated to combine SPH-A5000 with Kenwood or Nokia because they are all related to efficient keyboard input on mobile devices, and the use of special characters and specifically emoticons. Furthermore, one of ordinary skill in the art would have been motivated to modify the system disclosed in SPH-A5000 to include the features disclosed in Kenwood or Nokia in order to increase the number of characters available to a user and to allow customization. (*See* Bederson Dec., at ¶88-93).

**GROUND 8. Claims 1, 9-15, 17-18 and 21-24 are Unpatentable Under 35 U.S.C. § 102(b) as Anticipated by Philips**

Claims 1, 9-15, 17-18 and 21-24 are anticipated by Philips, as shown below.

<b>‘731 Claims vs. Philips Savvy User’s Guide</b>	
1. A mobile communication apparatus comprising:	
Philips discloses a <b>mobile phone</b> that can send SMS messages. (Philips: 1, 4).	
a display;	
Philips discloses a display embodied in the <b>screen</b> as shown. (Philips: 4-5)	
a first input key; and	
Philips discloses that the <b>right button</b> is used to “switch to the option on the right” when an alternate option is presented to the user. (Philips: 12). The right button is an input key, and satisfies the claimed “first input key.” ( <i>See</i> Bederson Dec., at ¶94)	
operating logic associated with the first input key to display on said display a list of emoticons for selection by a user, responsive to a selection of said first input key,	

Philips discloses a **list of emoticons** for selection that can be displayed if the user presses the right button after entering text in an SMS message. (Philips: 17-18). The user can then use the left and right buttons to select an emoticon to include in the message. (Philips: 18) Philips also discloses **operating logic**, implemented using hardware and software, to control the operation of the device. One of ordinary skill in the art would have understood that Philips inherently and necessarily discloses operating logic, in the form of both hardware and software, which controls the operation of the described device. (See Bederson Dec., at ¶95).



when the apparatus is operating in a text mode.

Philips discloses a list of emoticons that can be displayed when the user is **entering text in a short (SMS) message**, which constitutes the claimed text mode. (Philips: 17-18; *see also* Bederson Dec., at ¶94)

9. The apparatus of claim 1, wherein in addition to said first input key, said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data.

Philips discloses a 12-key input pad having 12 keys arranged in a 4×3 array. (Philips: 4). The keys of the 4×3 array can be used to enter both alphabet and numeric data. (Philips: 4) Philips also discloses that the right button is used to “switch to the option on the right.” (Philips: 12; *see also* Bederson Dec., at ¶94)

10. The apparatus of claim 1, wherein said operating logic is designed to display

<p>said emoticons for selection in a selected one of a first left-to-right then top-to-bottom display arrangement, a second right-to-left then top-to-bottom display arrangement, a third top-to-bottom then left-to-right display arrangement, and a fourth top-to-bottom then right-to-left display arrangement.</p>
<p>Philips discloses a list of emoticons that can be displayed when the user is entering text in an SMS message; the emoticons are displayed in a top-to-bottom and then left-to-right manner, therefore meeting this claim limitation. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)</p>
<p>11. The apparatus of claim 1, wherein said operating logic is designed to place a current focus on one of the one or more emoticons displayed for selection.</p>
<p>Philips discloses the user can use the left and right buttons to select an emoticon to include in the message; the current focus is indicated by the icon currently displayed on screen. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)</p>
<p>12. The apparatus of claim 11, wherein said operating logic is further designed to change said placement of current focus to another one of said one or more emoticons displayed for selection responsive to a user input.</p>
<p>Philips discloses the user can use the left and right buttons to select an emoticon to include in the message; the current focus is indicated by the icon currently displayed on screen, and the icon in focus can be changed responsive to user input. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)</p>
<p>13. The apparatus of claim 12, wherein said operating logic is designed to perform said changes in accordance with the order the one or more emoticons are displayed for selection.</p>
<p>Philips discloses the user can use the left and right buttons to navigate through emoticons to include in the message; the current focus is indicated by the icon currently displayed on screen, and the icon in focus can be changed responsive to user input. The focus is changed in the order in which the icons are displayed. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)</p>
<p>14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.</p>
<p>Philips discloses the user can use at least the right button, which constitutes the first input key as noted above in claim 1, to select an emoticon to include in the message. (Philips: 18; <i>see also</i> Bederson Dec., at ¶94)</p>
<p>15. The apparatus of claim 12, wherein said apparatus further comprises at least one other input key, and said at least one other input key is employed to provide said user input.</p>

Philips discloses the user can use at least the left button, which is not the first input key, to select an emoticon to include in the message. (Philips: 18; <i>see also</i> Bederson Dec., at ¶94)
17. The apparatus of claim 11, wherein said operating logic is further designed to select the emoticon with the current focus, responsive to a user input.
Philips discloses the user can use the left and right buttons to choose an emoticon to include in the message; the current focus is indicated by the icon currently displayed on screen. The icon in focus can be changed responsive to user input – the focus is changed in the order in which the icons are displayed. The “OK” can be pressed to select the emoticon with the current focus. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)
18. The apparatus of claim 1, wherein each of said one or more emoticons comprises a plurality of characters.
Philips discloses emoticons that comprise a plurality of characters or a graphical emoticon. (Philips: 18; <i>see also</i> Bederson Dec., at ¶94)
21. The apparatus of claim 18, wherein said selecting of the emoticon with the current focus comprises selecting all characters of the emoticon with the current focus.
Philips discloses the emoticon in focus can be selected using the “OK” key, and that the entire emoticon (all characters) is selected. (Philips: 17-18; <i>see also</i> Bederson Dec., at ¶94)
22. The apparatus of claim 1, wherein each of said one or more emoticons comprises a pixel map based single graphical symbol.
Philips discloses emoticons that comprise pixel-based graphical symbols. (Philips: 18; <i>see also</i> Bederson Dec., at ¶94)
23. The apparatus of claim 1, wherein said apparatus further comprises: storage medium having stored therein a plurality of programming instructions designed to implement said operating logic; and a processor coupled to the storage medium to execute the programming instruction.
It would be inherent to one of ordinary skill in the art that the functionality described in Philips would necessarily require a storage medium, such as a memory, with instructions that implement the operating logic, and a processor for executing those instructions. ( <i>See</i> Bederson Dec., at ¶122)
24. The apparatus of claim 1, wherein said mobile communication device is a wireless mobile phone.
Philips discloses a wireless mobile phone. (Philips: 1, 4).

**GROUND 9. Claims 2-6, 7-13, 19-20, and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of the Knowledge of One of Ordinary Skill in the Art**

Claims 2-6, 7-13, 19-20, and 25 are invalid as obvious over Philips in view of the knowledge of one of ordinary skill, as shown in the claim chart below. .

See Ground 2 above; citing *KSR*, 550 U.S. 398, 402-03 (2007).

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

See Ground 8 Claim 1 chart. Philips discloses an asterisk key which can be used for entering “\*” when the apparatus is operating in voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode, such as for DTMF tones. (Philips: 1, 4). Philips discloses the entry of text and special symbols using the keys while in a non-voice mode (p. 6), and therefore those keys, including the “\*” key, could have been utilized as the first input key as a design choice. (See Bederson Dec., at ¶¶96-97). See Examiner’s remarks, February 24, 2006 Office Action, 4 (finding this claim obvious).

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

See claim 2, *supra*. The same analysis applies in connection with the “#” key.

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

See claim 2, *supra*. The same analysis applies in connection with the digit keys.

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input key being one of said 12 input keys.

See Ground 8 Claim 1 chart. Philips discloses a 12-key input keypad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (See Bederson Dec., at ¶¶107).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

*See* claim 5, *supra*. The same analysis applies in connection with the selection of a specific key of the array as performing the identified function, which would be nothing more than an obvious design choice. (*See* Bederson Dec., at ¶107).

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

Philips discloses a 4×3 array input keypad, which is configured in a left-to-right and top-to-bottom manner. (Philips: 4; *see also* Bederson Dec., at ¶107)

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

Philips discloses a 4×3 array input keypad, which is configured in a left-to-right and top-to-bottom manner. (Philips: 4; *see also* Bederson Dec., at ¶107)

10. The apparatus of claim 1, wherein said operating logic is designed to display said emoticons for selection in a selected one of a first left-to-right then top-to-bottom display arrangement, a second right-to-left then top-to-bottom display arrangement, a third top-to-bottom then left-to-right display arrangement, and a fourth top-to-bottom then right-to-left display arrangement.

*See* Ground 8 Claim 1 chart. Philips discloses a list of emoticons that can be displayed when the user is entering text in an SMS message. (Philips: 17-18). One of ordinary skill in the art would understand that the various list display configurations could easily be included as a design choice, and that extending the list to, for example, be configured in a top-to-bottom and then left-to-right manner would be obvious. (*See* Bederson Dec., at ¶109).

11. The apparatus of claim 1, wherein said operating logic is designed to place a current focus on one of the one or more emoticons displayed for selection.

Philips discloses the user can use the left and right buttons to select an emoticon to include in the message; the current focus is indicated by the icon currently displayed on screen. To the extent this is not considered a current focus, it would have been obvious to one of ordinary skill at the time to incorporate a focus for a displayed option, for example, by visually distinguishing that option as it is displayed on the screen (by highlighting, reverse video, bold, or otherwise) (Philips: 17-18; *see also* Bederson Dec., at ¶110)

12. The apparatus of claim 11, wherein said operating logic is further designed to change said placement of current focus to another one of said one or more emoticons displayed for selection responsive to a user input.

Philips discloses the user can use the left and right buttons to select an emoticon to include in the message; the current focus is indicated by the icon currently displayed on screen, and the icon in focus can be changed responsive to user input. To the extent Philips is found not to have a current focus, the use of, and movement of, a current focus on screen would be obvious as discussed in claim 11 above. (Philips: 17-18; *see also* Bederson Dec., at ¶111)

13. The apparatus of claim 12, wherein said operating logic is designed to perform said changes in accordance with the order the one or more emoticons are displayed for selection.

Philips discloses the user can use the left and right buttons to navigate through emoticons to include in the message; the current focus is indicated by the icon currently displayed on screen, and the icon in focus can be changed responsive to user input. The focus is changed in the order in which the icons are displayed. To the extent Philips is found not to have a current focus, the use of, and movement of, a current focus on screen would be obvious as discussed in claim 11 above. (Philips: 17-18; *see also* Bederson Dec., at ¶111)

19. The apparatus of claim 18, wherein said placement of a current focus on a first of displayed emoticons comprises highlighting all characters of the first emoticon.

Philips discloses placing a current focus by displaying the emoticon on the screen, as indicated above. One of ordinary skill in the art would understand that highlighting could also be used to distinguish an option on the screen, as well as underlining, italicizing, employing bold face, or otherwise modifying the appearance of a currently-selected list option to visually distinguish it from other items on the screen. (*See* Bederson Dec., at ¶116).

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

Philips discloses placing a current focus by displaying the emoticon on the screen, as indicated above. One of ordinary skill in the art would understand that focus could also be accomplished by underlining, italicizing, employing bold face, or otherwise modifying the appearance of a selected list option to visually distinguish it from other items on screen. (*See* Bederson Dec., at ¶119).

25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more

emoticons to be displayed for user selection.

*See* Ground 8 Claim 1 chart. Philips discloses a list of emoticons that can be displayed. (Philips: 17-18). One of ordinary skill in the art would understand that adding items to or deleting items from a list would have been obvious and well-known at the time. (*See* Bederson Dec., at ¶123). During the examination of the parent ‘991 Patent, the Examiner took official notice that “the art of add[ing] or delet[ing] an object in a display of a portable device is conventionally well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add or delete emoticon[s] in the apparatus of [the primary reference] so that the user can have his desire[d] emoticons.” ‘991 Patent Prosecution history, 6/23/04 Office Action at 7.

**GROUND 10. Claims 2-8 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of Nokia II**

Claims 2-8 are invalid over Philips in view of Nokia II as shown below.

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

*See* Ground 8 Claim 1 chart. Philips discloses an asterisk key which can be used for entering “\*” when the apparatus is operating in voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode. (Philips: 4). It would have been obvious to one of ordinary skill in the art to use keys on a standard 4x3 keypad on a mobile phone for the entry of text and special symbols while in a non-voice mode, and therefore any of such keys, including the “\*” key, could have been utilized as the first input key. (*See* Bederson Dec., at ¶¶96-97). *See* Examiner’s remarks during prosecution, February 24, 2006 Office Action, 4 (finding this claim obvious).

Nokia II discloses: “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #. For writing of SMS-messages, most of the number keys (2-9, 0, and #) in Nokia 2110 mobile phones can be used to produce letters and other symbols. In this case, a part of the producible symbols reside ‘under’ each key, e.g., in order first three letters, then the number of the numeric keyboard and after these two or three special symbols. [and thereafter describing various means for accessing these symbols]” Nokia II, ¶0002.

One of ordinary skill in the art would be motivated to combine Philips with Nokia II to designate one of the 12 standard keys, e.g., the “\*” key, as the input

key because they are both related to efficient keyboard input on mobile devices, and the use of special characters. Furthermore, one of ordinary skill in the art would have been motivated to modify the system disclosed in Philips to include the features disclosed in Nokia II in order to increase efficiency of keyboard input, in particular in instances in which the user can be presented with more options than there are keys. (*See* Bederson Dec., at ¶98-101)

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the “#” key.

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the digit keys.

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input key being one of said 12 input keys.

*See* Ground 8 Claim 1 chart. Philips discloses a 12-key input keypad arranged in a standard 4×3 mobile phone keypad array configuration for entering at least numerical data. It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶108).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

*See* claim 5, *supra*. The same analysis applies in connection with the selection of a specific key of the array as performing the identified function, which would be nothing more than an obvious design choice. (*See* Bederson Dec., at ¶108).

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

Philips discloses a 4×3 array input keypad, which is configured in a left-to-right and top-to-bottom manner. (Philips: 4; *see also* Bederson Dec., at ¶108)

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

Philips discloses a 4×3 array input keypad, which is configured in a left-to-right and top-to-bottom manner. (Philips: 4; *see also* Bederson Dec., at ¶108)

**GROUND 11. Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of King**

Claim 16 is obvious over Philips in view of King, as shown below.

16. The apparatus of claim 11, wherein said operating logic is further designed to automatically select the emoticon with the current focus upon occurrence of a selected one of elapse of a predetermined amount of time after the first input key was last selected, and selection another input key.

*See* Ground 8 Claim 11 chart. Philips discloses the user can use the left and right buttons to select an emoticon and the “OK key” to insert the emoticon in the message. (Philips: 18). It would have been obvious to one of ordinary skill to employ another input key to allow the user to select an emoticon having the current focus. (*See* Bederson Dec., at ¶112-5; *see* King at 21:33-38). Also, it would have been obvious to one of ordinary skill in the art to enable the selection of an emoticon after a predetermined amount of time has elapsed. *See* Ground 4 above for the motivation to combine the references and a full discussion of King, which applies equally here. (*See* Bederson Dec., at ¶112-5).

**GROUND 12. Claims 19-20 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of IBM**

Claims 19-20 are obvious over Philips in view of IBM, as shown below.

19. The apparatus of claim 18, wherein said placement of a current focus on a first of displayed emoticons comprises highlighting all characters of the first emoticon.

*See* Ground 8 Claim 18 chart. Philips discloses placing a current focus by displaying the emoticon on the screen, as indicated above. One of ordinary skill in the art would understand that focus could also be accomplished by highlighting, underlining, italicizing, bold face, or otherwise modifying the appearance of a selected list option in a variety of ways. For instance, IBM discusses distinguishing on-screen elements in the context of computing, and describes numerous techniques that could be employed to distinguish on-screen elements, including underlining, colors, fonts, sizes, italics, and bold. *See* Ground 5 above for the relevant cited portions and motivation to combine the

references, which apply equally here. (*See* Bederson Dec., at ¶117-8, 120-1).

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

Philips discloses placing a current focus by displaying the emoticon on the screen, as indicated above. *See* claim 19, *supra*.

**GROUND 13. Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Philips in view of Kenwood or Nokia**

Claim 25 is invalid as obvious over Philips in view of Kenwood or Nokia, as shown in the claim chart below.

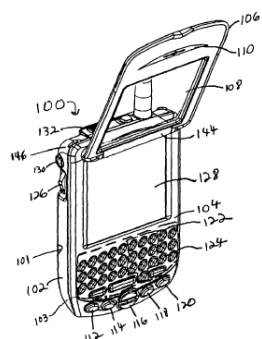
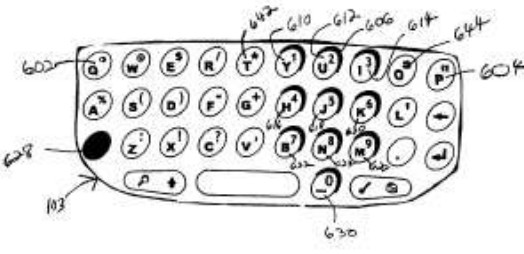
25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

*See* Ground 8 Claim 1 chart. Philips discloses a list of emoticons that can be displayed to the user. (Philips: 17-18). One of ordinary skill in the art would understand that adding items to or deleting items from a list would have been obvious and well-known at the time. (*See* Bederson Dec., at ¶123). For example, Kenwood discloses that “[a]s in the case of a fixed-form sentence, this emoticon can be pre-registered in the terminal as an initial value, and can be inputted by writing it oneself,” and therefore described the adding of emoticons by the user. (Kenwood: Col. 4, lns. 43-45; *see also* Bederson Dec., at 125-126; Col. 3, lns. 22-35.). Nokia similarly describes “[the user] can enter the desired pattern by means of a graphical editor 35 (display is shown in fig. 7) and store the manually entered graphic in a ‘User graphic’ memory 32 and use the graphic in the GMS editor.” (Nokia at p. 11, lns. 24-29)

One of ordinary skill in the art would be motivated to combine Philips with Kenwood or Nokia because they are all related to efficient keyboard input on mobile devices, and the use of special characters and specifically emoticons. Furthermore, one of ordinary skill in the art would have been motivated to modify the system disclosed in Philips to include the features disclosed in Kenwood or Nokia in order to increase the number of characters available to a user and to allow customization. (*See* Bederson Dec., at ¶124).

**GROUND 14. Claims 1, 4, 10-13, 15, 17-19, 21 and 23-24 are Unpatentable Under 35 U.S.C. § 102(e) as Anticipated by Hawkins**

Claims 1, 4, 10-13, 15, 17-19, 21 and 23-24 are anticipated by Hawkins. Hawkins claims priority to and incorporates by reference U.S. Provisional Patent Appln. No. 60/297,817 (hereinafter “Hawkins Provisional”), filed on June 11, 2001, and is prior art under at least 35 U.S.C. § 102(e). The Hawkins Provisional provides support for the elements referenced in the claim chart below.

<b>‘731 Claims vs. U.S. Patent No. 6,975,304 (“Hawkins”)</b>	
1. A mobile communication apparatus comprising:	
Hawkins discloses a <b>mobile device</b> capable of sending SMS messages. (Hawkins: Col. 1, lns. 19-21; col. 4: lns. 41- 50).	
a display;	
Hawkins discloses a display embodied in the <b>screen</b> shown. (Hawkins: Col. 3, lns. 8-10; figure 1A; <i>see also</i> Bederson Dec., at ¶127)	 <p>FIG. 1A</p>
a first input key; and	
Hawkins discloses multiple keys that can result in the display of a list of emoticons depending on the manner of operation. “In one embodiment, the “...” <b>symbol key</b> 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.” This key can constitute the	 <p>FIG. 3A</p>

first input key. (Hawkins: Col. 5, lns. 11-13; figure 3A; *see also* Bederson Dec., at ¶127)

“Upon the occurrence of the event of receiving 804 input indicating a request for one or more alternate symbols linked to a base symbol, at least one alternate symbol for [sic] is displayed 808 for the base symbol. ... Requests may also be indicated by pressing a key dedicated for processing alternate symbols such as the “...” key 630 displayed on the keyboard in FIG. 3A. (Hawkins: Col. 6, line 55 to col. 7, line 3; *see also* Bederson Dec., at ¶127).

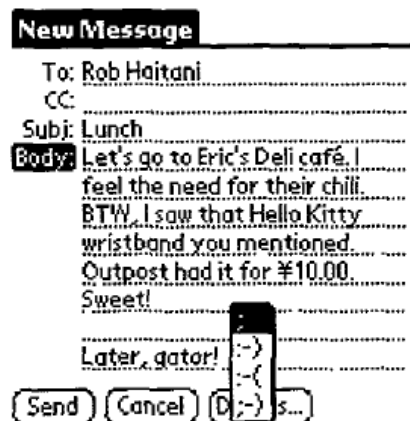
In a third embodiment, Hawkins discloses that the space and option keys can be pressed in sequence to access the special characters, including emoticons. Accordingly, the space key discloses the claimed first input key. “A user may request an alternate symbol display view by typing a key sequence, for example <option><space> after entering a base symbol.” Col 6:55-61. (*See also* Hawkins provisional: 20-21; corresponding figures).

Further, Hawkins discloses that the emoticon list may be displayed by pressing and holding the key corresponding to the base character for the emoticon list, which is the “.” key. Hawkins, 6:67-7:3. (“Or the user may request an alternate symbol for a base symbol by holding a key representing the base symbol down or maintaining a display contact for a designated amount of time.”).

operating logic associated with the first input key to display on said display a list of emoticons for selection by a user, responsive to a selection of said first input key,

Hawkins discloses that a **list of emoticons** can be displayed: “Each of FIGS. 6A, 6B and 6C illustrate an example of a view of at least one alternate symbol associated with a base symbol. In each of these examples, the view is embodied as a pop-up menu displaying a list of alternate symbols. ...

FIG. 6C illustrates a pop-up menu display of examples of alternate symbols that have a logical or associational connection with the base symbol of colon ':' that the user has typed. The semi-colon ';' and the emoticons ':-)' indicating a smile or happiness, ':((' indicating sadness, and the ';-)' typically associated with a smile with a wink or tongue in cheek expression.



The semi-colon is typically associated with a colon either by sharing a common syllable or being on the same key in typical desktop keyboard. By association, the tongue in cheek emoticon uses a semi-colon so it is also linked or associated with the colon. The other displayed emoticons have a colon as part of their short sequences of symbols so they are logically or associationally connected to the colon.” (Hawkins: Col. 7, Ins. 4-29; figure 6C; *see also* Bederson Dec., at ¶127)

Hawkins also discloses that the list of emoticons can be displayed for selection by the user by entering a “:” which is the base character for the emoticon list,” and then typing a key sequence of the <option> and then <space> keys. “A user may request an alternate symbol display view by typing a key sequence, for example <option><space> after entering a base symbol.” Col 6:55-61. (*See also* Hawkins provisional: 20-21; corresponding figures).

Further, Hawkins discloses that the emoticon list may be displayed by pressing and holding the key corresponding to the base character for the emoticon list, which is the “:” key. Hawkins, 6:67-7:3. (“Or the user may request an alternate symbol for a base symbol by holding a key representing the base symbol down or maintaining a display contact for a designated amount of time.”).

Hawkins also discloses **operating logic**, implemented using hardware and software, to control the operation of the device. (Hawkins: Col. 7, Ins. 7-26 and 56-67; *see also* Bederson Dec., at ¶128)

when the apparatus is operating in a text mode.

Hawkins discloses that “An example of a common short symbol sequence is an emoticon used in e-mail messages to convey tone or feelings.” (Hawkins: Col. 6, Ins. 41-43). The keys operate in the above-referenced fashion when the device is in a text mode (when composing e-mail). (*See* Bederson Dec., at ¶127)

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

Hawkins discloses numerical keys inherently would be used for entering digits when the phone is operating in a voice mode (at least in part because no other keys are disclosed for operating phone functions in voice mode) – in other words, that the number keys have standard phone functionality when in voice/phone mode. (Hawkins: Figure 3A; *see also* Bederson Dec., at ¶127). As noted above, the “first input key” of Hawkins may be the “symbol key,” which doubles as the zero key. (“In one embodiment, the “...” **symbol key** 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.”) (Hawkins: Col. 5, lns. 11-13).

10. The apparatus of claim 1, wherein said operating logic is designed to display said emoticons for selection in a selected one of a first left-to-right then top-to-bottom display arrangement, a second right-to-left then top-to-bottom display arrangement, a third top-to-bottom then left-to-right display arrangement, and a fourth top-to-bottom then right-to-left display arrangement.

Hawkins discloses a list of emoticons that can be displayed when the user is entering text; displayed in a top-to-bottom and then left-to-right manner, therefore meeting this claim limitation. (Hawkins: Col. 7, lns. 4-29; figure 6C).

11. The apparatus of claim 1, wherein said operating logic is designed to place a current focus on one of the one or more emoticons displayed for selection.

Hawkins discloses a list of emoticons with a current focus on one emoticon (shown in reverse video). (Hawkins: Col. 7, lns. 4-29; figure 6C).

12. The apparatus of claim 11, wherein said operating logic is further designed to change said placement of current focus to another one of said one or more emoticons displayed for selection responsive to a user input.

Hawkins discloses a list of emoticons with a current focus on one emoticon, allowing the user to use the keyboard to change the placement of the current focus to select an emoticon to insert in the text. (Hawkins: Col. 7, lns. 4-29; col. 5, lns. 31-34; figure 6C; *see also* Bederson Dec., at ¶127).

13. The apparatus of claim 12, wherein said operating logic is designed to perform said changes in accordance with the order the one or more emoticons are displayed for selection.

Hawkins discloses a list of emoticons with a current focus on one emoticon (shown in reverse video), allowing the user to use the keyboard to change the placement of the current focus, through the list of emoticons one-by-one in the order in which the emoticons are displayed. (Hawkins: Col. 7, lns. 4-29; col. 5,

Ins. 31-34; figure 6C).
15. The apparatus of claim 12, wherein said apparatus further comprises at least one other input key, and said at least one other input key is employed to provide said user input.
Hawkins discloses “the ‘...’ symbol key 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol”, and “application button 116 is associated with a scroll-up, scroll-down feature.” (Hawkins: Col. 5, Ins. 11-13; col. 5, Ins. 31-34; figure 3A).
17. The apparatus of claim 11, wherein said operating logic is further designed to select the emoticon with the current focus, responsive to a user input.
Hawkins discloses a list of emoticons with a current focus on one, allowing the user to select by a key press the emoticon having current focus to insert in the text. (Hawkins: Col. 7, Ins. 4-29; figure 6C).
18. The apparatus of claim 1, wherein each of said one or more emoticons comprises a plurality of characters.
Hawkins discloses emoticons that comprise a plurality of characters. (Hawkins: Col. 7, Ins. 4-29; figure 6C).
19. The apparatus of claim 18, wherein said placement of a current focus on a first of displayed emoticons comprises highlighting all characters of the first emoticon.
Hawkins discloses a list of emoticons with a focus on one emoticon, with all of the characters of the selected emoticon shown as highlighted. (Hawkins: Col. 7, Ins. 4-29; Figure 6C; <i>see also</i> Bederson Dec., at ¶127)
21. The apparatus of claim 18, wherein said selecting of the emoticon with the current focus comprises selecting all characters of the emoticon with the current focus.
Hawkins discloses a list of emoticons with a current focus on one highlighted emoticon, allowing the user to select the emoticon to insert in the text, including all of the characters of the emoticon with the current focus. (Hawkins: Col. 7, Ins. 4-29; figure 6C; <i>see also</i> Bederson Dec., at ¶127)
23. The apparatus of claim 1, wherein said apparatus further comprises: storage medium having stored therein a plurality of programming instructions designed to implement said operating logic; and a processor coupled to the storage medium to execute the programming instruction.
Hawkins discloses a storage medium for storing the programming instructions to implement the disclosed functionality, and a processor to execute the

programming instructions for the disclosed functionality. (Hawkins: Col. 4, Ins. 56-67; figure 2; *see also* Bederson Dec., at ¶127)

24. The apparatus of claim 1, wherein said mobile communication device is a wireless mobile phone.

Hawkins discloses a mobile phone. (Hawkins: Col. 3, Ins. 40-44).

**GROUND 15. Claims 2-10, 14, 20, 22 and 25 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of the Knowledge of One of Ordinary Skill in the Art**

Claims 2-10, 14, 20, 22 and 25 are invalid as obvious over Hawkins in view of the knowledge of one of ordinary skill, as shown in the claim chart below. *See* Ground 2 above; citing *KSR*, 550 U.S. 398, 402-03 (2007).

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

*See* Ground 14 Claim 1 chart. Hawkins discloses an asterisk key which can be used for entering “\*” when the apparatus is operating in voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode. (Hawkins: Figure 3A). It would have been obvious to one of ordinary skill in the art to use keys on a standard 4x3 keypad on a mobile phone for the entry of text and special symbols while in a non-voice mode, and therefore any of such keys, including the “\*” key, could have been utilized as the first input key, and any such key could be chosen as an obvious design choice. (*See* Bederson Dec., at ¶129-130). *See* Examiner’s remarks during prosecution, February 24, 2006 Office Action, 4 (finding this claim obvious).

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the “#” key.

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

*See* claim 2, *supra*. The same analysis applies in connection with the digit keys.

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input

key being one of said 12 input keys.

*See* Ground 14 Claim 1 chart. Hawkins discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34). A 12 input key arrangement in a 4×3 array configuration was well known on mobile phones. It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶140).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

*See* claim 5, *supra*. The same analysis applies in connection with the selection of a specific key of the array as performing the identified function, which would be nothing more than an obvious design choice. (*See* Bederson Dec., at ¶140).

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

*See* claim 5, *supra*. The positioning of the keys in well known ordered manners (such as left-to-right or right-to-left) would have been obvious design choices to one of ordinary skill. (*See* Bederson Dec., at ¶142).

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

*See* claim 5, *supra*. The positioning of the keys in well known ordered manners (such as bottom-to-top or top-to-bottom) would have been obvious design choices to one of ordinary skill. (*See* Bederson Dec., at ¶142).

9. The apparatus of claim 1, wherein in addition to said first input key, said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data.

*See* Ground 14 Claim 1 chart. Hawkins also discloses “the ‘...’ symbol key 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.” That key also doubles as a numeric (zero) key. (Hawkins: Col. 5, lns. 11-13; figure 3A) . This claim would have been obvious because the standard 4x3 mobile phone keyboard was well-known in the field. *See* claim 5, *supra*. The positioning of the keys in well known ordered manners (such as bottom-to-top or top-to-bottom), and the specific alternate functions of

each of those keys, would have been obvious design choices to one of ordinary skill. (*See* Bederson Dec., at ¶144).

10. The apparatus of claim 1, wherein said operating logic is designed to display said emoticons for selection in a selected one of a first left-to-right then top-to-bottom display arrangement, a second right-to-left then top-to-bottom display arrangement, a third top-to-bottom then left-to-right display arrangement, and a fourth top-to-bottom then right-to-left display arrangement.

*See* Ground 14 Claim 1 chart. Hawkins discloses a list of emoticons that can be displayed when the user enters text; the emoticons are displayed in a top-to-bottom and then left-to-right manner, thus meeting this claim. (Hawkins: Col. 7, lns. 4-29; figure 6C). Further, one of ordinary skill in the art would understand that other list display configurations could easily be included as a design choice, and that extending the list to, for example, be configured in a top-to-bottom and then left-to-right manner would be obvious. (*See* Bederson Dec., at ¶146).

14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.

*See* Ground 14 Claim 12 chart. Hawkins discloses “the ‘...’ symbol key 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.” (Hawkins: Col. 5, lns. 11-13; figure 3A). One of ordinary skill in the art would understand that the symbol key, or any of the other identified keys, could be configured to assist in the selection of an emoticon. (*See* Bederson Dec., at ¶147).

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

*See* Ground 14 Claim 19 chart. Hawkins discloses a list of emoticons with a current focus on a highlighted emoticon. (Hawkins: Col. 7, lns. 4-29; figure 6C). One of ordinary skill in the art would understand that highlighting could also be accomplished by underlining, italicizing, employing bold face, or otherwise modifying the appearance of a currently-selected list option to visually distinguish it from others. (*See* Bederson Dec., at ¶153).

22. The apparatus of claim 1, wherein each of said one or more emoticons comprises a pixel map based single graphical symbol.

*See* Ground 14 Claim 1 chart. Hawkins discloses symbols that comprise pixel maps. (Hawkins: Col. 7, lns. 7-17; figure 6A-6B). It would have been obvious to one of ordinary skill in the art to enable emoticons as pixel maps/graphical symbols. (*See* Bederson Dec., at ¶156). This feature was well known, and is admitted to be prior art in the Background of the ‘731 Patent: “For example,

when the characters ‘:’ (colon), ‘=’ (equal sign) and ‘)’ (right parenthesis) are successfully entered, some instant messaging applications automatically replace the entered characters with the graphical symbol ‘☺’.” ‘731 Pat., col. 1: 36-43.

25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

*See* Ground 14 Claim 1 chart. Hawkins discloses a list of emoticons that can be displayed. (Hawkins: Col. 7, lns. 4-29; figure 6C). One of ordinary skill would understand that adding items to/deleting items from a list would have been well-known. (*See* Bederson Dec., at ¶165). During examination of the parent ‘991 Patent, the Examiner took official notice that “the art of add[ing] or delet[ing] an object in a display of a portable device is conventionally well known. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add or delete emoticon[s] in the apparatus of [the primary reference] so that the user can have his desire[d] emoticons.” ‘991 Patent Prosecution history, 6/23/04 Office Action at 7.

**GROUND 16. Claims 2-9 and 14 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Nokia II**

Claims 2-9 and 14 are obvious over Hawkins and Nokia II as shown below.

2. The apparatus of claim 1, wherein the first input key is an input key for entering an “\*” (asterisk) when the apparatus is operating in a voice mode.

*See* Ground 14 Claim 1 chart. Hawkins discloses an asterisk key which one of ordinary skill in the art would understand inherently would be used for entering “\*” when the phone is operating in a voice mode – in other words, that the “\*” key has its standard phone functionality when in voice/phone mode. (Hawkins: Figure 3A). Hawkins also discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34)

Nokia II discloses: “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #. For writing of SMS-messages, most of the number keys (2-9, 0, and #) in Nokia 2110 mobile phones can be used to produce letters and other symbols. In this case, a part of the producible symbols reside ‘under’ each key, e.g., in order first three letters, then the number of the numeric

keyboard and after these two or three special symbols. [and thereafter describing various means for accessing these symbols]” Nokia II, ¶0002.

One of ordinary skill in the art would be motivated to combine Hawkins with Nokia II to designate one of the 12 standard keys, e.g., the “\*” key, as the input key because they are both related to efficient keyboard input on mobile devices, and the use of special characters. Furthermore, one of ordinary skill in the art would have been motivated to modify the system disclosed in Hawkins to include the features disclosed in Nokia II in order to increase efficiency of keyboard input, in particular in instances in which the user can be presented with more options than there are keys. (*See* Bederson Dec., at ¶131-134)

3. The apparatus of claim 1, wherein the first input key is an input key for entering a “#”, (pound) when the apparatus is operating in a voice mode.

Hawkins discloses a pound key which one of ordinary skill in the art would understand inherently would be used for entering “#” when the phone is operating in a voice mode – in other words, that the “#” key has its standard phone functionality when in voice/phone mode. (Hawkins: Figure 3A). Hawkins also discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34). This claim would have been obvious for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶137).

4. The apparatus of claim 1, wherein the first input key is an input key for entering a digit when the apparatus is operating in a voice mode.

*See* Ground 14 Claim 1 chart. Hawkins discloses numerical keys inherently would be used for entering digits when the phone is operating in a voice mode (at least in part because no other keys are disclosed for operating phone functions in voice mode) – in other words, that the number keys have standard phone functionality when in voice/phone mode. (Hawkins: Figure 3A). Hawkins also discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34) This claim would have been obvious for the same reasons as set forth above for claim 2. (*See* Bederson Dec., at ¶139).

5. The apparatus of claim 1, wherein said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data, and said first input key being one of said 12 input keys.

*See* Ground 14 Claim 1 chart. Hawkins discloses at least a 12-key input pad for entering alphabet and numeric data. (Hawkins: Figure 3A) Hawkins also discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34). It would have been obvious to one of ordinary

skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (*See* Bederson Dec., ¶141).

6. The apparatus of claim 5, wherein said first input key is the input key occupying a fourth row and first column position of said 4×3 array configuration.

Hawkins discloses at least a 12-key input pad. (Hawkins: Figure 3A). Hawkins also discloses enabling specific keys on the keyboard to act as shortcut keys. (Hawkins: Col. 6, lns. 18-34). It would have been obvious to one of ordinary skill in the art to enable one of the 12-key input keys to be assigned alternate functions in connection with the input of special characters, such as emoticons, for the same reasons as set forth above for claim 2. (*See* Bederson Dec., ¶141).

7. The apparatus of claim 6, wherein column positions of said 4×3 array configuration are determined in a selected one of a left-to-right and a right-to-left manner.

Hawkins discloses at least a 12-key input pad. (Hawkins: Figure 3A). This claim would have been obvious because the standard 4×3 mobile phone keyboard, configured in left-to-right manner, was well-known in the field. As described in Nokia II, “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #.” *See* Nokia II, ¶0002. (*See* Bederson Dec., ¶143).

8. The apparatus of claim 6, wherein row positions of said 4×3 array configuration are determined in a selected one of a top-to-bottom and a bottom-to-top manner.

Hawkins discloses at least a 12-key input pad configured in a top-to-bottom manner. (Hawkins: Figure 3A). This claim would have been obvious because the standard 4×3 mobile phone keyboard, configured in top-to-bottom manner, was well-known in the field. As described in Nokia II, “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #.” *See* Nokia II, ¶0002. (*See* Bederson Dec., at ¶143).

9. The apparatus of claim 1, wherein in addition to said first input key, said apparatus further comprises a 12-key input key pad having 12 input keys arranged in a 4×3 array configuration for entry of at least a selected one of alphabet and numeric data.

See Ground 14 Claim 1 chart. Hawkins discloses at least a 12-key input pad, with which a user can enter either alphabetic and numeric data. (Hawkins: Col. 5, lns. 8-10; col. 5, lns. 24-26; figure 3A) Hawkins also discloses “the ‘...’ symbol key 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.” (Hawkins: Col. 5, lns. 11-13; figure 3A) . This claim would have been obvious because the standard 4×3 mobile phone keyboard, configured in left-to-right manner, was well-known in the field. As described in Nokia II, “In addition to the keys reserved for starting a call and using menu functions, mobile phones often contain a familiar button-telephone-like keyboard with 12 keys arranged in matrix of [f]our rows by three columns: numbers 1-9 and \*, 0 and #.” See Nokia II, ¶0002. (See Bederson Dec., ¶145).

14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.

Per above, Hawkins discloses several methods for accessing an emoticon list. It would have been obvious to one of ordinary skill to employ the first input key to also change the focus as in the multi-tap context, including as disclosed in Nokia II and for the reasons set forth above in claim 2. (See Bederson Dec., at ¶148)

**GROUND 17. Claim 16 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of King**

Claim 16 is obvious over Hawkins in view of King, as shown below.

16. The apparatus of claim 11, wherein said operating logic is further designed to automatically select the emoticon with the current focus upon occurrence of a selected one of elapse of a predetermined amount of time after the first input key was last selected, and selection another input key.

See Ground 14 Claim 11 chart. Hawkins discloses “the ‘...’ symbol key 630 is a dedicated key for processing related to a request for an alternate symbol linked to a base symbol.” (Hawkins: Col. 5, lns. 11-13; figure 3A). It would have been obvious to one of ordinary skill in the art to employ another input key to allow the user to select an emoticon having the current focus. (See Bederson Dec., at ¶149-152; see also King at 21:33-38). Additionally, it would have been obvious to one of ordinary skill in the art to enable the selection of an emoticon after a predetermined amount of time has elapsed. The use of a time-out, to automatically select a symbol having the current focus, would have been well known to one of ordinary skill in the art. See Ground 4 above for the motivation to combine the references and a full discussion of King, which

applies equally here. (*See* Bederson Dec., at ¶149-152).

**GROUND 18. Claim 20 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of IBM**

Claim 20 is obvious over Hawkins in view of IBM, as shown below.

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

*See* Ground 14 Claim 19 chart. Hawkins discloses a list of emoticons with a current focus on a highlighted emoticon. (Hawkins: Col. 7, Ins. 4-29; figure 6C; *see also* Bederson Dec., at ¶153). One of ordinary skill would understand that highlighting could also be accomplished by underlining, italicizing, employing bold face, or otherwise modifying the appearance of a selected list option. *See* Ground 5 above for the relevant cited portions and motivation to combine the references, which apply equally here. (*See* Bederson Dec., ¶154-5).

**GROUND 19. Claim 22 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Philips or Nokia**

Claim 22 is obvious over Hawkins in view of Nokia or Philips, as shown in the claim chart below.

22. The apparatus of claim 1, wherein each of said one or more emoticons comprises a pixel map based single graphical symbol.

*See* Ground 14 Claim 1 chart. Hawkins discloses symbols that comprise pixel maps. (Hawkins: Col. 7, Ins. 7-17; figure 6A-6B; *see also* Bederson Dec., at ¶156) It would have been obvious to one of ordinary skill in the art to also enable emoticons as pixel maps. This feature was well known, and is admitted to be prior art in the Background of the '731 Patent: "For example, when the characters ':' (colon), '=' (equal sign) and ')' (right parenthesis) are successfully entered, some instant messaging applications automatically replace the entered characters with the graphical symbol '☺'." '731 Patent, col. 1: 36-43. The use of pixel map-based graphics on cell phones was widely known, *e.g.*, as described in Philips at 17-18 (see claim chart herein and Figure depicting "Emotion Icons"); and as described in Nokia in Fig. 5 below. (Nokia: col. 7, line 14; Figure 5) (*See* Bederson Dec., at 161-164). One of ordinary skill would be motivated to combine Hawkins with Nokia or

Philips because they are both related to efficient keyboard input on mobile devices, and the entry of special characters. One of ordinary skill in the art would have been motivated to modify Hawkins to include the features disclosed in Nokia or Philips in order to increase the number of characters available to users. (*See* Bederson Dec., at ¶157-160).

**GROUND 20. Claim 25 is Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Hawkins in view of Kenwood or Nokia**

Claim 25 is obvious over Hawkins in view of Kenwood or Nokia, as shown:

25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

*See* Ground 14 Claim 1 chart. Hawkins discloses a list of emoticons that can be displayed. (Hawkins: Col. 7, lns. 4-29; figure 6C). One of ordinary skill in the art would understand that adding items to or deleting items from a list would have been obvious and well-known at the time. Kenwood discloses that “[a]s in the case of a fixed-form sentence, this emoticon can be pre-registered in the terminal as an initial value, and can be inputted by writing it oneself,” and therefore described the adding of emoticons by the user. (Kenwood: Col. 4, lns. 43-45; Col. 3, lns. 22-35). Nokia similarly describes “[the user] can enter the desired pattern by means of a graphical editor 35 (display is shown in fig. 7) and store the manually entered graphic in a ‘User graphic’ memory 32 and use the graphic in the GMS editor.” (Nokia at p. 11, lns. 24-29). One of ordinary skill would be motivated to combine Hawkins with Kenwood or Nokia because they are all related to efficient keyboard input on mobile devices, and the use of special characters including emoticons. One of ordinary skill would have been motivated to modify Hawkins to include the features disclosed in Kenwood or Nokia in order to increase the number of characters available to a user and to allow customization. (*See* Bederson Dec., at ¶166-168).

**GROUND 21. Claims 1, 14-15, 17-18, 21 and 23-25 are Unpatentable Under 35 U.S.C. § 102(a) as Anticipated by Kenwood**

Claims 1, 14-15, 17-18, 21 and 23-25 are invalid as anticipated by Kenwood, as shown in the claim chart below. A certified translation of Kenwood is attached as part of Exhibit 1009 and referenced in the charts below.

# **‘731 Claims vs. Kenwood**

## 1. A mobile communication apparatus comprising:

Kenwood discloses a “a mobile communication terminal such as a PHS (Personal Handy-phone System) terminal, **cell phone** terminal, etc.” (Kenwood: Col. 1, lns. 28-30; *see also* Bederson Dec., at ¶169)

a display;

Kenwood discloses an **LCD** display. (Kenwood: Col. 2, lns. 43-45; Fig. 5).

a first input key; and

Kenwood discloses an operation key that functions as the claimed first input key. “An operation key (18), for example a function key, is pressed while creating the e-mail title or body. (It is pressed once while creating the title, and twice while creating the body.) Then, as shown in Fig. 3(a), the characters ‘Fixed-form sentences’ are displayed on the screen of the LCD (22), and the system transitions to the fixed-form sentence read mode.” (Kenwood: Col. 3, lns. 55-60; Fig. 5; *see also* Bederson Dec., at ¶169). The list of emoticons are displayed by pressing the **numeric keys** while in the fixed-form sentence mode. Therefore, the numeric keys each qualify as the claimed first input key.

operating logic associated with the first input key to display on said display a list of emoticons for selection by a user, responsive to a selection of said first input key,

Kenwood discloses that a **list of emoticons** can be

displayed for selection by the user: “In the case of the emoticons shown in Fig. 4, the emoticons represent facial expressions such as a ‘Smile’ by combining a plurality of symbols. This plurality of emoticons is classified into a plurality of groups, and is registered in the RAM (19) by assigning each group to a

[Fig.4]

	Emoticon	Number of characters	Meaning
1 <sup>st</sup> group (numeric key 1)	( ^ ^ )	5	Smile
	m( _ )m	6	Sorry
2 <sup>nd</sup> group (numeric key 2)	( ^ ^ ; )	5	Sweating
	( ? ? )	5	Why?
3 <sup>rd</sup> group (numeric key 3)	( - - ^ )	5	Irritated
	( ^ 0 ^ )	5	Grin
4 <sup>th</sup> group (numeric key 4)	t( - 0 - )	6	Angry
	( ♥ ♥ )	5	Lovey-dovey
5 <sup>th</sup> group (numeric key 5)	( ̂ ̂ )	5	Tired
	( = = )	5	Hmm
6 <sup>th</sup> group (numeric key 6)	( .. )?	5	Let me see...
	( / ^ ^ )	6	Whistling
	....	4	...
	( - - 0 + - )	6	Help me
	( ; ; )	5	Crying

key on the ten-key numeric keypad. (One example is the classification of Fig. 4, etc.) During a read, the ten-key numeric keypad is used to specify a group, and an emoticon in the specified group is selected and read according to the number of times the same numeric key is pressed. (Alternatively, it is according to the

number of times the Up/Down arrow is pressed. However, a group specification key operation is calculated as one time.)” (Kenwood: Col. 4, lns. 29-41; col. 3, ln. 55-col. 4, ln. 23; Fig. 4; *see also* Bederson Dec., at ¶169).

Kenwood discloses **operating logic** in the form of a processor, ROM, and RAM. (*See* Fig. 5; *see also* Bederson Dec., at ¶170)

when the apparatus is operating in a text mode.

Kenwood discloses a list of emoticons that can be displayed when the user is entering **text in an email message**, which constitutes the claimed text mode. (Kenwood: Col. 3, lns. 55-60; *see also* Bederson Dec., at ¶169)

14. The apparatus of claim 12, wherein said first input key is also employed to provide said user input.

Kenwood discloses the user can press the numeric key for the emoticon group, and then press the numeric key multiple times to select an emoticon to include in the message. (Kenwood: Col. 3, line 55 to col. 4, line 11; Fig. 4; *see also* Bederson Dec., at ¶169) Kenwood also discloses an operation key, such as the “Set” key, that functions as a first input key and which can provide user input. (Kenwood: Col. 3, lns. 55-60; col. 4, lns. 7-8; *see also* Bederson Dec., at ¶169)

15. The apparatus of claim 12, wherein said apparatus further comprises at least one other input key, and said at least one other input key is employed to provide said user input.

Kenwood discloses the user can use an up/down arrow to select an emoticon to include in the message. (Kenwood: Col. 4, lns. 29-41; Fig. 4; *see also* Bederson Dec., at ¶169) Kenwood also discloses an operation key, such as the “Set” key, that functions as a first input key and which can provide user input. (Kenwood: Col. 3, lns. 55-60; col. 4, lns. 7-8; *see also* Bederson Dec., at ¶169)

17. The apparatus of claim 11, wherein said operating logic is further designed to select the emoticon with the current focus, responsive to a user input.

Kenwood discloses using the arrow buttons to select an emoticon; the current focus is indicated by the icon currently displayed on screen. The icon in focus can be changed responsive to user input – the focus is changed in the order in which the icons are displayed. The “set” can be pressed to select the emoticon with the current focus. *See* cl. 15, *supra*; *see also* Bederson Dec., at ¶169)

18. The apparatus of claim 1, wherein each of said one or more emoticons comprises a plurality of characters.

Kenwood discloses emoticons that comprise a plurality of characters. (Kenwood: Col. 4, lns. 29-41; Fig. 4; *see also* Bederson Dec., at ¶169)

21. The apparatus of claim 18, wherein said selecting of the emoticon with the current focus comprises selecting all characters of the emoticon with the current focus.

Kenwood discloses the emoticon in focus can be selected using the “OK” key, and that the entire emoticon (all characters) is selected. (*See* cl. 17, *supra*; *see also* Bederson Dec., at ¶169)

23. The apparatus of claim 1, wherein said apparatus further comprises: storage medium having stored therein a plurality of programming instructions designed to implement said operating logic; and a processor coupled to the storage medium to execute the programming instruction.

Kenwood discloses a storage medium for storing the programming instructions to implement the disclosed functionality, and a processor to execute the programming instructions for the disclosed functionality. (Kenwood: Col. 2, lns. 33-45; Fig. 5; *see also* Bederson Dec., at ¶169)

24. The apparatus of claim 1, wherein said mobile communication device is a wireless mobile phone.

Kenwood discloses a wireless mobile phone. (Kenwood: Col. 1, lns. 28-30; *see also* Bederson Dec., at ¶169)

25. The apparatus of claim 1, wherein the apparatus further comprises facilities for adding an emoticon to, or subtracting an emoticon from said one or more emoticons to be displayed for user selection.

Kenwood discloses “[a]s in the case of a fixed-form sentence, this emoticon can be pre-registered in the terminal as an initial value, and can be inputted by writing it oneself.” (Kenwood: Col. 4, lns. 43-45; *see also* Bederson Dec., at ¶169). Thus, Kenwood discloses facilities for adding emoticons to the list.

**GROUND 22. Claims 11-13 are Unpatentable Under § 103(a) as Obvious over Kenwood in view of the Knowledge of One of Ordinary Skill in the Art**

Claims 11-13 are obvious over Kenwood in view of the knowledge of the person of ordinary skill, as shown below. *See* Ground 2 above; citing *KSR*.

11. The apparatus of claim 1, wherein said operating logic is designed to place a current focus on one of the one or more emoticons displayed for selection.

*See* Ground 21 Claim 1 chart. Kenwood discloses displaying a list of emoticons

for selection by the user, and the user of the number keys and arrow keys to change focus, as cited above. It would have been obvious for a person of ordinary skill in the art to review Kenwood and understand that one of the emoticons must have a current focus. Kenwood, col. 4, lns. 29-42. The user would not be able to understand which emoticon would be inserted into the message when the “Set” key is pressed unless one of the emoticons had a focus. If a single emoticon is displayed from the list one at a time, then that emoticon would have the current focus. It would have been both obvious to one of ordinary skill and necessary as a design feature for one of the emoticons displayed for selection to have the current focus. Therefore, claim 11 would have been obvious, if not anticipated. (*See* Bederson Dec., at ¶182).

12. The apparatus of claim 11, wherein said operating logic is further designed to change said placement of current focus to another one of said one or more emoticons displayed for selection responsive to a user input.

*See* claim 11, supra. Claim 12 is invalid for the same reasons, and because the means for changing focus is disclosed (number keys or arrow keys). (*See* Bederson Dec., at ¶183).

13. The apparatus of claim 12, wherein said operating logic is designed to perform said changes in accordance with the order the one or more emoticons are displayed for selection.

*See* claim 12, supra. Claim 13 is invalid for the same reasons, and because the means for changing focus in the order in which the emoticons are displayed is disclosed (number keys or arrow keys). (*See* Bederson Dec., at ¶183).

**GROUND 23. Claims 19-20 are Unpatentable Under 35 U.S.C. § 103(a) as Obvious over Kenwood in view of IBM**

Claims 19-20 are obvious over Kenwood in view of IBM, as shown below.

19. The apparatus of claim 18, wherein said placement of a current focus on a first of displayed emoticons comprises highlighting all characters of the first emoticon.

*See* Ground 21 Claim 18 chart. Kenwood discloses placing a current focus by displaying the emoticon on the screen, as indicated above. One of ordinary skill in the art would understand that focus could also be accomplished by highlighting, underlining, italicizing, bold face, or otherwise modifying the appearance of a currently-selected list option. *See* Ground 5 above for the relevant cited portions and motivation to combine the references, which apply

equally here. (*See* Bederson Dec., at ¶188-191).

20. The apparatus of claim 19, wherein said highlighting comprises a selected one of underlying, italicizing and employing bold faces for the characters.

Kenwood discloses placing a current focus by displaying the emoticon on the screen, as indicated above. *See* claim 19, *supra*.

## VIII. FEES

Pursuant to 37 C.F.R. § 42.103(a), the Office is authorized to charge the \$27,200 Petition Fee, along with excess claim fees of \$3000 (twenty-five claims are identified for review, and therefore the excess claim fee a for the five additional claims over and above the twenty claim limit is \$3000) and any additional fees, as set forth in 37 C.F.R. § 42.15(a), to Deposit Account 02-4377, ref: 072395.0208.

## IX. MANDATORY NOTICES

**Real Parties-in-Interest [37 C.F.R. § 42.8(b)(1)]:** Samsung Electronics Co., Ltd. is the real party-in-interest.

**Related Matters [37 C.F.R. § 42.8(b)(2)]:** The following matters would affect or be affected by a decision in this proceeding: *Varia Holdings LLC v. Samsung Electronics Co., Ltd., Samsung Electronics America, Inc., and Samsung Telecommunications America, LLC*, Civil Action No. 1:12-cv-01899-PGG (S.D.N.Y.); and *Varia Holdings LLC v. Research In Motion Corp. and Research In Motion Ltd.*, Civil Action No. 1:12-cv-00320-SLR-MPT (D. Del).

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,167,731

**Counsel [37 C.F.R. § 42.8(b)(3)]:** Lead Counsel: Neil P. Sirota (Reg. No. 38,306); Backup Counsel: Robert L. Maier (Reg. No. 54,291) and Bradley P. Williams (Reg. No. 40,227).

Petitioner requests authorization to file a motion for Mr. Michael Barta to appear *pro hac vice*. Mr. Barta has 10 years of experience working with the Petitioner on patent litigation matters, including related to mobile phone interface technology, and is familiar with the specific subject matter of this proceeding as he is lead counsel in the co-pending district court litigation involving the '731 Patent.

**Service Information [37 C.F.R. § 42.8(b)(4)]:**

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Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this Petition. Please address all correspondence to counsel at the address above. Petitioner consents to electronic service by e-mail at the e-mail address above.

**X. CERTIFICATION OF GROUNDS FOR STANDING**

Petitioner certifies pursuant to 37 C.F.R. § 42.104(a) that the patent for which review is sought is available for *inter partes* review, and Petitioner further

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,167,731

certifies that Petitioner is not barred or estopped from requesting an *inter partes* review challenging the patent claims on the grounds identified herein.

**XI. CONCLUSION**

For the foregoing reasons, Petitioner respectfully requests that *inter partes* review of the '731 patent be instituted, and that claims 1-25 be rejected.

March 15, 2013

Respectfully submitted,  
BAKER BOTTS LLP



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**CERTIFICATE OF SERVICE ON PATENT OWNER**  
**UNDER 37 C.F.R. § 42.105(a)**

Pursuant to 37 C.F.R. §§ 42.8(e) and 42.105(b), the undersigned certifies that on the 15th day of March, 2013, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via Federal Express, postage prepaid, to the Patent Owner and its known representatives by serving the two correspondence addresses of record for the '731 Patent holder and the patent holder's counsel:

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